SONY®

MULTIDISPLAY CONTROL UNIT
BKS-R1607

UNIVERSAL CONTROL UNIT
BKS-R1608
BKS-R3209

X-Y CONTROL UNIT
BKS-R3210

MAINTENANCE MANUAL
1st Edition
Serial No. 10001 and Higher (BKS-R1607)
Serial No. 10001 and Higher (BKS-R1608)
Serial No. 10001 and Higher (BKS-R3209)
Serial No. 10001 and Higher (BKS-R3210)

Attention-when the product is installed in Rack:

1. **Prevention against overloading of branch circuit**
   When this product is installed in a rack and is supplied power from an outlet on the rack, please make sure that the rack does not overload the supply circuit.

2. **Providing protective earth**
   When this product is installed in a rack and is supplied power from an outlet on the rack, please confirm that the outlet is provided with a suitable protective earth connection.

3. **Internal air ambient temperature of the rack**
   When this product is installed in a rack, please make sure that the internal air ambient temperature of the rack is within the specified limit of this product.

4. **Prevention against achieving hazardous condition due to uneven mechanical loading**
   When this product is installed in a rack, please make sure that the rack does not achieve hazardous condition due to uneven mechanical loading.

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Manual Structure

Purpose of this manual

This manual is the maintenance manual of following models.

Multidisplay Control Unit   BKS-R1607
Universal Control Unit   BKS-R1608
Universal Control Unit   BKS-R3209
X-Y Control Unit   BKS-R3210

This manual is intended for use by trained system and service engineers, and describes the information for installation, maintenance and detailed service.

Contents

This manual is organized by following sections.

Section 1   Installation
This section explains the operational environment, the power specifications and recommended power cord.

Section 2   Service Overview
This section explains the cabinet removal/installation, the switching regulator replacement and software update.

Section 3   Spare Parts
This section describes the spare parts.

Section 4   Semiconductor Pin Assignments
This section describes the pin assignments of semiconductor.

Section 5   Block Diagram
This section describes the overall block diagram.

Section 6   Schematic Diagrams
This section describes the schematic diagrams for mounted circuit boards.

Section 7   Board Layouts
This section describes the board layouts for mounted circuit boards.

Related manual

The following manual is prepared for this unit.

• **Operation Manual (Supplied with the unit)**
This manual describes the notes on operating and the location and functions of parts and controls of the unit.

Section 1
Installation

1-1. Operating Environment

Operating temperature   : ±0˚C to +45˚C
Performance temperature : +5˚C to +40˚C
Humidity   : 10 % to 90 %
                      (No condensation)
Mass   : about 3 kg

To prevent overheating of the unit ensure that there is good air circulation around the unit.
Select an installation place as operating temperature of the unit is 5 ˚C to 40 ˚C. Do not place the unit near heart sources.

1-2. Power Supply

A switching regulator (+5 V) is used for the power source of the unit. So the unit can be used with a voltage of 100 V to 240 V ± 10 % without changing the input supply voltage.

1-2-1. Power Supply Specifications

Power voltage   AC 100 to 240 V ± 10 %
Power frequency   50 or 60 Hz
Power consumption   10W
Rush Current   17 A (120 V)
                    28 A (240 V)

1-2-2. Recommended Power Cord

For customers in the U. S. A. and Canada
Required Part

① Power Cord, 125 V 10 A (2.4 m) : DK-2401 (UC)
② Plug Holder (Black)　　　　　　: 2-990-242-01
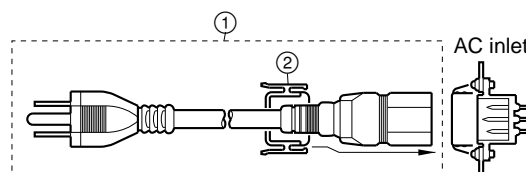
For customers in the United Kingdom
Required Part

① Power Cord, 250 V 10 A (2.4 m) : DK-2401 (UK)
② Plug Holder (Black)　　　　　　: 2-990-242-01
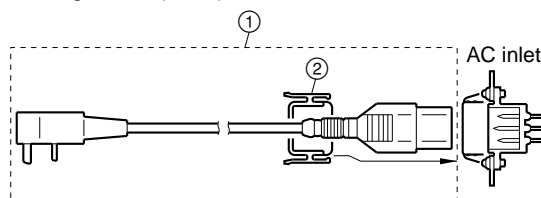
For customers in the Europe
Required Part

① Power Cord, 250 V 10 A (2.4 m) : DK-2401 (AE)
② Plug Holder (Black)　　　　　　: 2-990-242-01
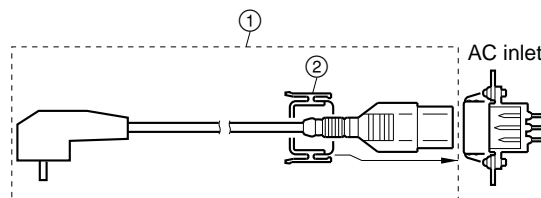
WARNING

Use the specified power cord only.
Be sure to use the recommended power cord to avoid fire and/or an electric shock.

CAUTION

Ground the unit for safety.
Be sure to attach a ground wire to avoid an electric shock.

Note

For the customer outside of the area as shown above or in a part of Europe, the above-mentioned power cords can be used. Use the power cord that is applicable to the places in the world.

1-3. Installation Space

The dimensions of the BKS-R1607, R1608, R3209 and R3210 are the same.
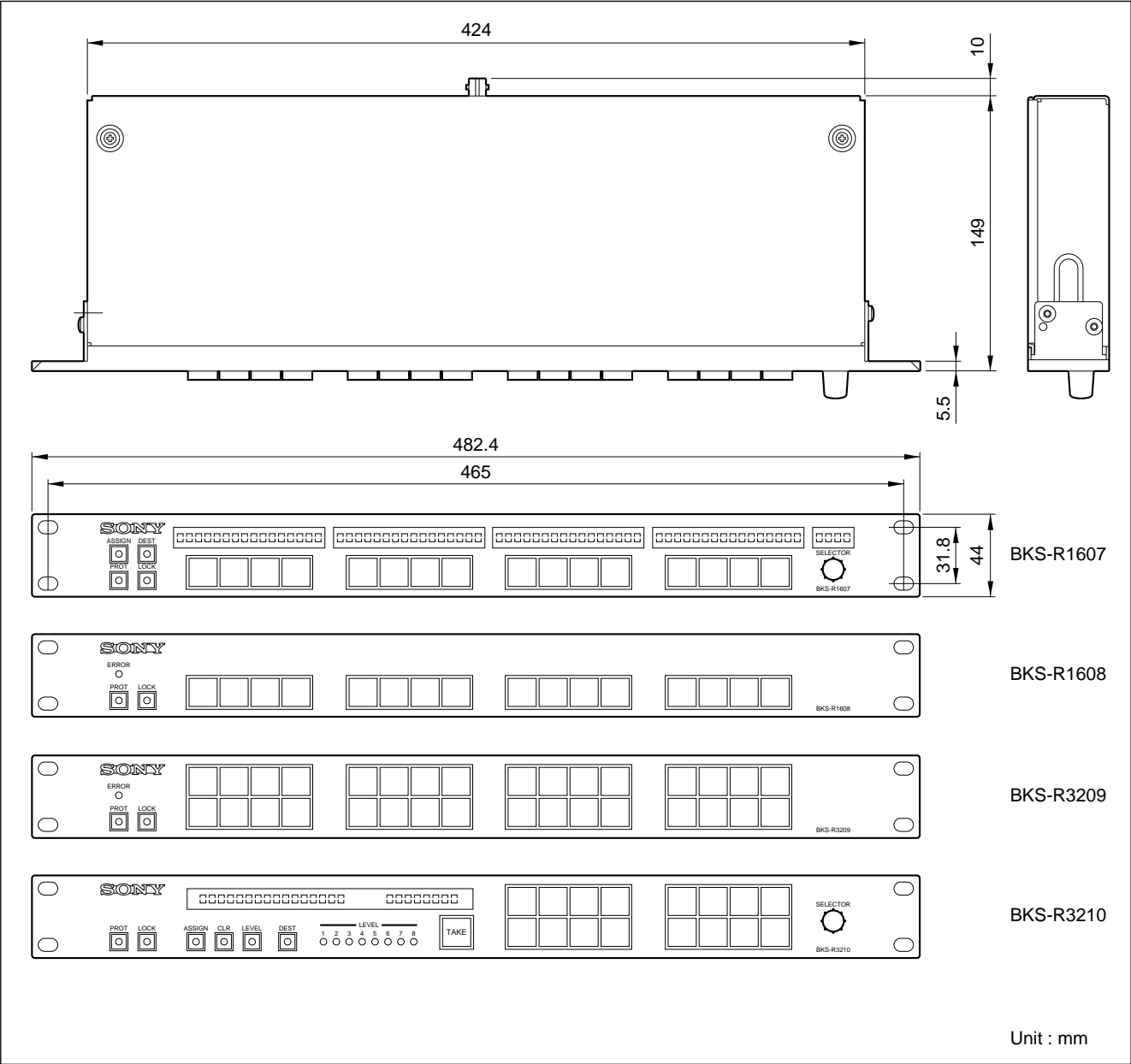
1-4. Rack Mounting

To install the unit into a rack, have the four screws
(+RK5×16) ready.
Secure the front panel of the unit to the rack with the
screws.

1-5. Connectors

When external cables are connected to the various
connectors on the connector panel, the hardware listed
below (or the equivalents) must be used.

Connectors of the unit		Matching connectors or cables	
Connector Function	Connector Type	Connector Type	Sony Parts Number
REMOTE 1	BNC	BNC 75 Ω 5C-2V cable	1-779-713-11
REMOTE 2	D-sub 9-pin, female	D-sub 9-pin, male RCC-5G, 10G, 30G*	1-766-174-11

∗ These cables are available as optional accessories. The length of the
  cables are 5 m, 10 m, 30 m respectively.

1-6. Signal Inputs and Outputs

The input and output signals of the connector on the
control panel are as follows.

REMOTE 2 (D-sub 9-pin, Female)

<External View>
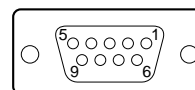
Pin assignments differ according to whether the M mode
(to control) or the S mode (to be controlled).

Pin No.	Function			
	M Mode	I/O	S Mode	I/O
1	FRAME GND	–	FRAME GND	–
2	RX –	I	TX –	O
3	TX +	O	RX +	I
4	GND	–	GND	–
5	NC		NC	
6	GND	–	GND	–
7	RX +	I	TX +	O
8	TX –	O	RX –	I
9	FRAME GND	–	FRAME GND	–

Section 2
Service Overview

2-1. Cabinet Removal/Installation

Removing Top Panel
Remove the two screws (+B3×5), then remove the top panel.

Removing Front Panel
Remove the four screws (PSW4×8) and a connector (CN1), then remove the front panel.
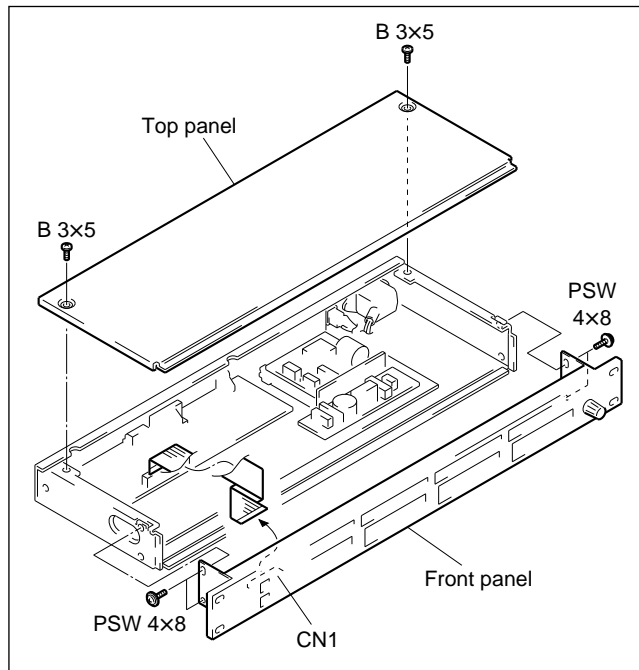
Note

On installing the top panel or front panel, install them following the removal procedure in reverse.

2-2. Main Parts Location

BKS-R1607/R3210
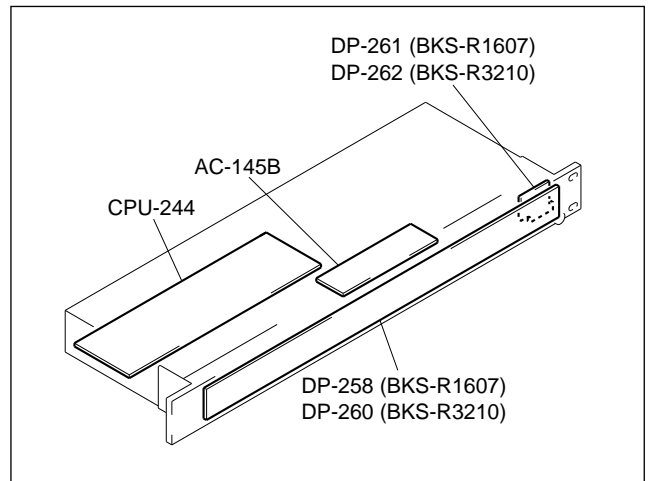
BKS-R1608/R3209
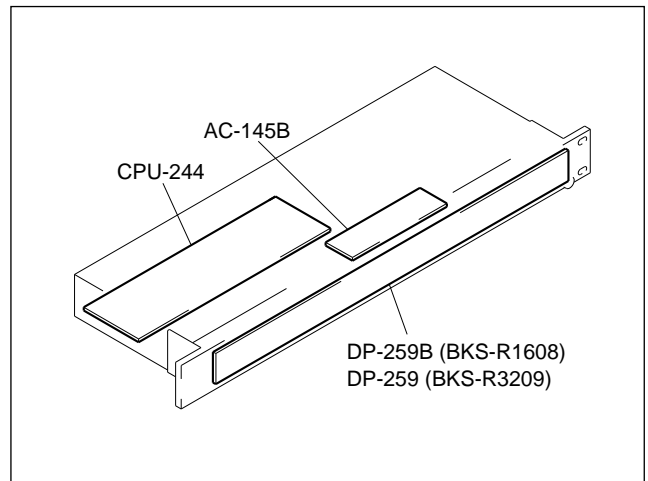
2-3. Switching Regulator Replacement and Adjustment

CAUTION

Do not disassemble the switching regulator.
To disassemble or modify the switching regulator may cause fire or electric shock.

Be sure to adjust the power supply voltage after replacing the switching regulator. (Refer to "2-3-2. Power Supply Voltage Adjustment".)

2-3-1. Replacing Switching Regulator

CAUTION

Unplug the power supply cord before replacing the switching regulator.

1.   Remove the top panel. (Refer to "2-1. Cabinet Removal/Installation".)
2.   Remove the two screws (PSW3×6) and disconnect the two connectors (CN1, CN2), then remove the switching regulator.
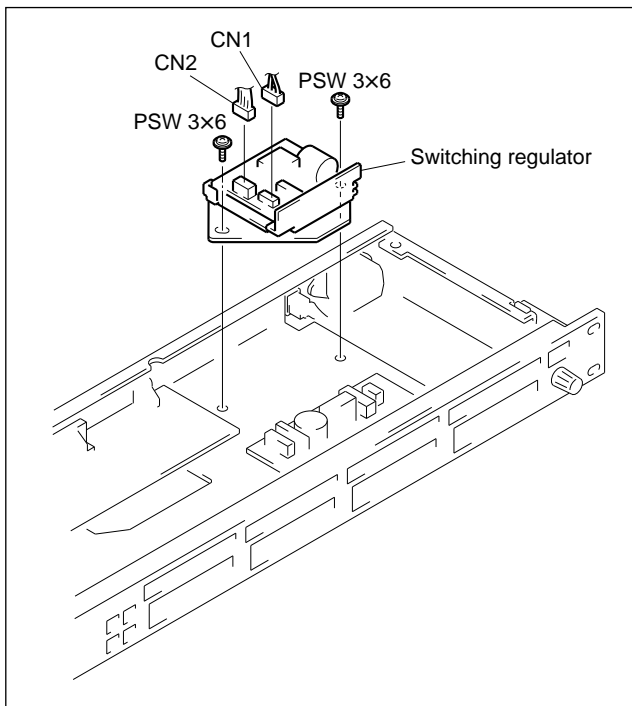
Note

On installing the switching regulator, install it following the replacement step 1 to 2 in reverse.

2-3-2. Power Supply Voltage Adjustment

Required Equipment

・ Digital voltmeter

Preparation

1.   Remove the top panel. (Refer to "2-1. Cabinet Removal/Installation".)
2.   Turn the power switch ON. The front panel buttons will blink.
     Wait for the blinking buttons to go out.

+ 5 V Adjustment

1.   Connect a digital voltmeter to TP1 and E3 on the CPU-244 board.
     + probe   : TP1 (A-1)
     − probe (GND) : E3 (B-1)
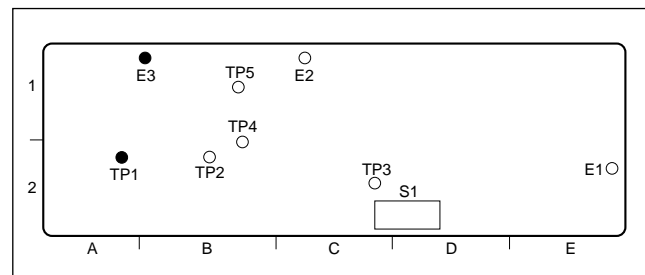
2.   Turn the adjustment control (RV1) on the switching regulator until the specification below is satisfied.
     Specification : 5.00 ± 0.05 V
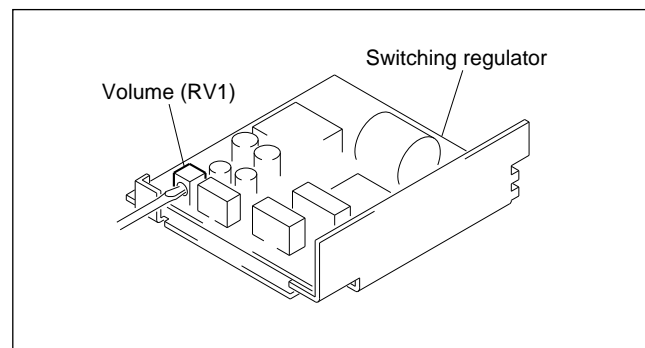
2-4. Software Update

The flash memory on the CPU-244 board stores the software.
There are following three ways to update the software.

- How to download updates from a personal computer via RS-232C cable.
  (Refer to "2-4-1. Download via RS-232C".)
- How to copy the updated software of another station via a terminal which is connected to the primary station of S-BUS data link.
  (Refer to "2-4-2. Download via S-BUS Data Link".)
- How to replace the flash memory.
  (Refer to "2-4-3. Flash Memory Replacement".)

2-4-1. Download via RS-232C

Required Equipment

- Personal computer (Abbreviates to PC)
  Load MS-DOS to an IBM PC/AT compatible machine.
- Communication cable for maintenance
  Sony part number : J-6422-200-A

Required Program Files

- BKS1.BAT (Software download program file)
- R✕✕✕✕ (1607/1608/3209/3210) . HEX
  (Software data / Intel HEX format file)

The program files will be supplied to Sony's sale office when the software is updated. Regarding these files, please contact to your local Sony's sale office.

For the display example in using a personal computer, this manual differentiates between the characters displayed automatically on the screen and the characters to be entered as shown below.

Font and style of letters	Display example	Reference for Distinction
Roman font	SONY	Message displayed automatically by a program
Gothic style (in italic)	*MN*	Characters to be entered
Symbols	⏎	ENTER key/return key

Download procedure

1. Turn the power switch OFF.
2. Remove the top panel. (Refer to "2-1. Cabinet Removal/Installation".)
3. Connect the maintenance connector of the CPU-244 board (CN5) and the PC RS-232C connector (COM1) using the communication cable.

   Note

   Wiring between the CPU-244 board and a terminal via a communication cable differs according to whether the terminal connector is D-sub 25-pin or D-sub 9-pin. (Refer to "Communication Cable Wiring".)

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Communication Cable Wiring

	Terminal		CPU-244 board
SIGNAL	D-sub 25-pin	D-sub 9-pin	CN5 3-pin (ILG)
FG	1		
TXD	2	3	3
RXD	3	2	2
RTS	4	7	
CTS	5	8	
DSR	6	6	
DCD	8	1	
DTR	20	4	
SG	7	5	1

3. Turn the power switch of the PC ON.
4. Set the communication conditions of the PC as follows:

Serial port	COM1
Baud rate	9600
Parity	None
Flow control	None
Stop bit length	1 bit
Data bit length	8 bits

5. Start up the MS-DOS software.
   Insert a floppy disk (required files are in) in the PC drive.
6. Select a drive inserted the floppy disk for command entry.
   (Following display example is drive A.)
7. Type "BKS1" and press Enter key.

```
A : ¥ > B K S 1 ⏎
```

Note

If MS-Windows is used on the PC, double click on the "BKS1.BAT" file on the floppy disk allows to download the program.

8. If "DOWNLOAD? [Y/N]" message appears, type letter "Y" to start downloading.
   "COMPLETED" message appears at the completion of software download.

Model name   Software version

```
[[[Remote Contrl Unit BKS-Rxxxx Software]]]
[[[   Software Version UP Program Vx.xx   ]]]

..
Download ? [Y/N]
[Y, N]Y
.
Now Downloading..... Wait a few minites.
.

.
COMPLETED
A:¥>
```
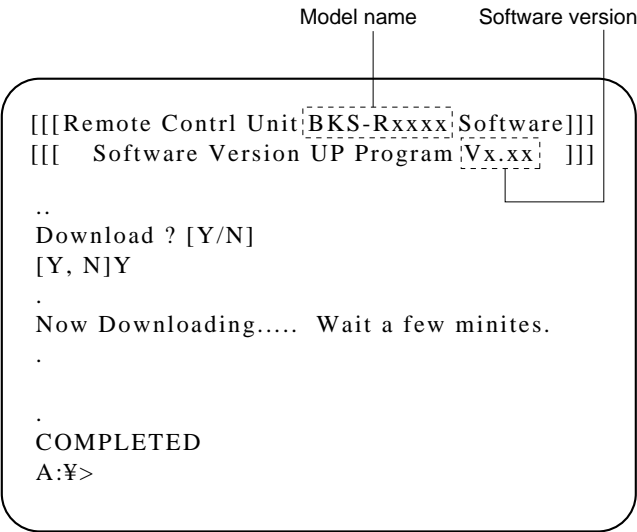
Note

If type letter "N", quit the program without downloading.

2-4-2. Download via S-BUS Data Link

The updated software can copy to another station via a terminal which is connected to the primary station of S-BUS data link.
(Regarding to details of terminal operating, refer to the software installation manual supplied with routing switcher.)

Download procedure

1. Open and display the setup menu of the updated software station on the terminal.
2. Press Ctrl-X and Ctrl-P to open the program download menu.

Model name   Software version   Station No.

<Setup Menu>

```
 –––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––
  SONY  ROUTING  SYSTEM  SETUP  MENU          BKS–Rxxxx   Vx. xx    STATION NUMBER  x


                         MODIFICATION  COMMAND


             H:  SET  PHANTOM  TABLE

             N:  SET  PANEL  TABLE

             O:  SET  AVAILABLE  SOURCE/DESTINATION

             R:  SET  ROUTE

             L:  COPY  TABLE  DATA

             Z:  SET  PANEL  STATUS

             S:  DISPLAY  DESCRIPTION  NAME


     Ctrl–D: RETURN
 –––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––
```

Ctrl–X + Ctrl–P

<Program Download Menu>

```
 –––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––
  SONY  ROUTING  SYSTEM  SETUP  MENU       BKS–Rxxxx   Vx. xx      STATION NUMBER  x

           DOWNLOAD  PROGRAM  <WARNING!>  FOR  ENGINEERING  USE

        STATION  NUMBER  ( 2–254, All ) =



           Ctrl–E: MENU        Ctrl–D: RETURN
 –––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––––
```

3. Select and enter the station number to be downloaded software, and press Enter key.
      To select all stations ; Enter "A".
      To select one station ; Enter station number.
    The buttons of the front panel will blink while downloading.
    When the download was completed, the buttons change the lights from the blinking state to
    illuminating state.

An example of selecting all station:

```
 _____

 SONY  ROUTING  SYSTEM  SETUP  MENU      BKS–Rxxxx  Vx. xx     STATION NUMBER  x

        DOWNLOAD  PROGRAM  <WARNING!>  FOR  ENGINEERING  USE

        STATION  NUMBER  ( 2–254,  All )  =  A⏎



        Ctrl–E: MENU          Ctrl–D: RETURN
 _____
```

 Note

If all stations are selected to be downloaded, only BKS-R1607/R1608/R3209/R3210 can receive the data.
There is no risk of copy errors that the software is copied to an extraneous station.

2-4-3. Flash Memory Replacement

1. Remove the top plate. (Refer to "2-1. Cabinet Removal/Installation".)

2. Remove and replace the flash memory on the CPU-244 board (IC7) using an IC extraction tool.
   Sony part number of IC extraction tool: J-6035-070-A

   Note

   If the flash memory is difficult to be removed by the IC extractor, use the tweezers or equivalent.

Flash Memory (IC7)

CPU-244 board
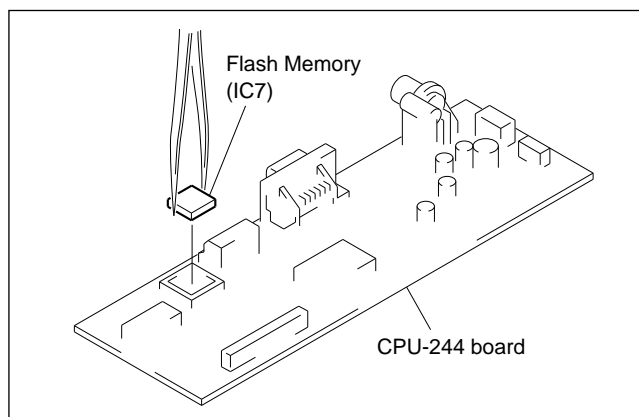
3. While pressing the button 1 and 2 of the front panel at the same time, turn the power switch ON to initialize the unit.

   CAUTION

   If the unit is initialized, all setting data is back to default setting.
   Reset the setting or copy the data from another control unit.
   (For the details of setting, refer to the operation manual supplied with the unit.)

2-5. Notes on Repair Parts

WARNING

Use the specified parts only

Components marked ⚠ are critical to safe operation.
Therefore, specified parts in the section of Spare Parts should be used in the case of replacement.

1. **Safety Related Components Warning**

   Components marked ⚠ are critical to safe operation. Therefore, specified parts should be used in the case of replacement.

2. **Standardization of Parts**

   Some repair parts supplied by Sony differ from those used for the unit. These are because of parts commonality and improvement.
   Parts list has the present standardized repair parts.

3. **Stock of Parts**

   Parts marked with "o" at SP (Supply Code) column of the spare parts list may be not stocked. Therefore, it may take a long time to deliver.

4. **Units Representation**

   The following represented units are changed or omitted in writing.

Units		Representation
Capacitance	μF	uF
Inductance	μH	uH
Resistance	Ω	Abbreviation
Temperature	°C	✕✕✕-DEG-C

Section 3
Spare Parts

Index

3-1. Exploded View

BKS-R1607

```
No.    Part No.     SP Discription

1     A-8313-810-A  o  MOUNTED CIRCUIT BOARD, CPU-244
2     A-8313-812-A  o  MOUNTED CIRCUIT BOARD, DP-258
3     A-8313-818-A  o  PANEL ASSY, FRONT
4     X-2068-004-0  s  TERMINAL ASSY
5     X-3167-051-1  s  KNOB ASSY, VOLUME

6   ⚠ 1-413-808-13  s  SWITCHING REGULATOR (10W)
7     1-500-249-11  s  BEAD, FERRITE (CASE)
8     1-558-261-31  s  WIRE, FLEXIBLE CARD
9   ⚠ 1-570-455-21  s  SWITCH, AC POWER ROCKER
10    1-571-654-21  s  SWITCH, PUSH

11    1-571-656-21  s  SWITCH, PUSH
12    1-571-967-11  s  SWITCH, DIP (PIANO TYPE)
13  ⚠ 1-580-375-11  s  INLET 3P, MALE
14    1-646-862-11  o  PRINTED CIRCUIT BOARD, AC-145
15    1-665-759-11  o  PRINTED CIRCUIT BOARD, DP-261

16    1-695-038-11  s  CONNECTOR ASSY, BNC 1P
17    1-766-174-11  o  CONNECTOR, SQUARE TYPE (D-SUB)
18    1-771-100-11  s  SWITCH, PUSH (ILLUMINATED)
19    1-957-633-11  o  HARNESS (DC-REG1)
20    1-957-634-11  o  HARNESS (AC-INLET)

21    1-957-635-11  o  HARNESS (AC-SW)
22    2-068-008-00  s  WASHER
23    2-280-622-11  s  SUPPORT (M3), HEXAGON
24    3-166-058-03  o  CHASSIS (D150)
25    3-166-059-01  o  PLATE (D150), TOP

26    3-192-868-01  o  WINDOW (S), LED
27    3-192-869-01  o  WINDOW (M), LED
28    3-192-870-01  o  BRACKET, FRONT
29    3-193-064-01  o  GASKET (A)
30    4-861-433-00  o  SUPPORT (A)

31    4-928-315-41  s  KEY TOP
32    4-928-315-51  s  KEY TOP
```

PWH 3×5

B 3×5

(25)

B 3×8

(9)

(13)

A

(29)

PWH 3×5

(21)

(20)

(4)

(22)

(19)

PWH 3×5

(1)

(7)

(16)

PWH 3×5

(6)

(17)

(12)

PWH 3×5

(14)

B 3×6

PWH 3×5

PS 4×8

(30)

W4

(15)

BV 3×10

PWH 3×5

PSW 3×6

(30)

PWH 3×5

PSW 3×6

N3 PSW 4×8

PWH 3×5

(28)

PWH 3×5

(26)

(8)

PWH 3×5

(18)

(23)

W4

A

PWH 3×5

(23)

W4

(5)

(18)

W4

PWH 3×5

(24)

(10)

(31)

(23)

(27)

(3)

(11)

W4

(32)

W4

(28)

(23)

W4

(2)

PSW 4×8

N3
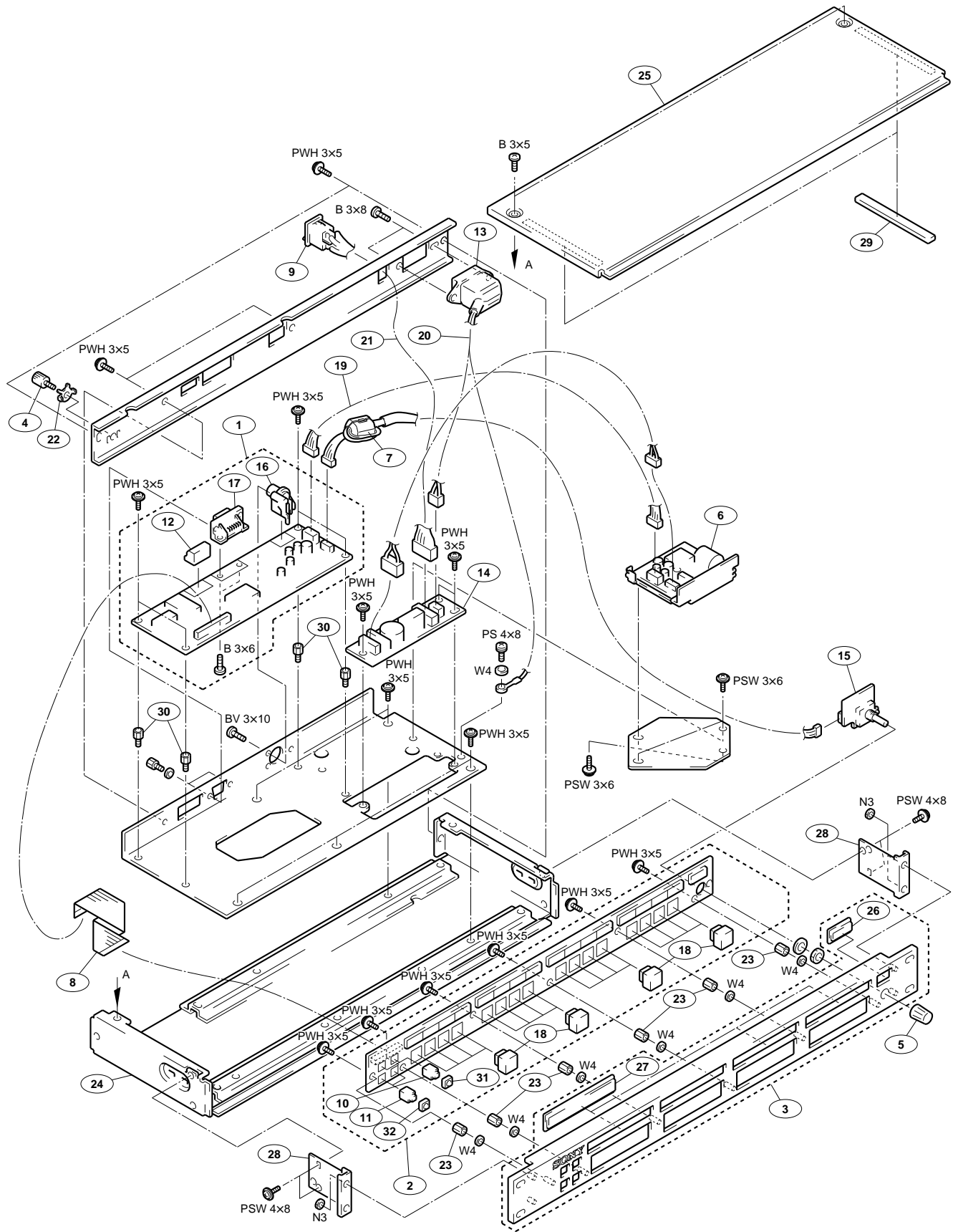
BKS-R1608

```
No.     Part No.      SP  Discription

101   A-8313-810-A   o   MOUNTED CIRCUIT BOARD, CPU-244
102   A-8313-826-A   o   MOUNTED CIRCUIT BOARD, DP-259B
103   A-8313-828-A   o   PANEL ASSY, FRONT
104   X-2068-004-0   s   TERMINAL ASSY
105  ⚠ 1-413-808-13  s   SWITCHING REGULATOR (10W)

106   1-558-261-31   s   WIRE, FLEXIBLE CARD
107  ⚠ 1-570-455-21  s   SWITCH, AC POWER ROCKER
108   1-571-656-21   s   SWITCH, PUSH
109   1-571-967-11   s   SWITCH, DIP (PIANO TYPE)
110  ⚠ 1-580-375-11  s   INLET 3P, MALE

111   1-646-862-11   o   PRINTED CIRCUIT BOARD, AC-145
112   1-695-038-11   s   CONNECTOR ASSY, BNC 1P
113   1-766-174-11   o   CONNECTOR, SQUARE TYPE (D-SUB)
114   1-771-100-11   s   SWITCH, PUSH (ILLUMINATED)
115   1-957-633-11   o   HARNESS (DC-REG1)

116   1-957-634-11   o   HARNESS (AC-INLET)
117   1-957-635-11   o   HARNESS (AC-SW)
118   2-068-008-00   s   WASHER
119   2-280-622-11   s   SUPPORT (M3), HEXAGON
120   3-166-058-03   o   CHASSIS (D150)

121   3-166-059-01   o   PLATE (D150), TOP
122   3-192-870-01   o   BRACKET, FRONT
123   3-193-064-01   o   GASKET (A)
124   4-861-433-00   o   SUPPORT (A)
125   4-928-315-51   s   KEY TOP
```

PWH 3×5

B 3×5

(121)

B 3×8

(110)

A

(123)

(107)

PWH 3×5

(116)

(104)

(118)

(115)

(117)

(101)

PWH 3×5

(112)

PWH 3×5

(113)

(109)

PWH
3×5

(105)

(111)

PWH
3×5

PS 4×8

(124)

W4

B 3×6

PWH
3×5

PSW 3×6

(124)

BV 3×10

PWH 3×5

PSW 3×6

N3   PSW 4×8

(122)

PWH 3×5

(119)

PWH 3×5

(114)

(106)

A

PWH 3×5

W4

PWH 3×5

(119)

W4

PWH 3×5

(114)

W4

(120)

PWH 3×5

(119)

W4

(103)

(108)

W4

(125)

W4

(122)

(119)

W4

(102)

PSW 4×8

N3

SONY
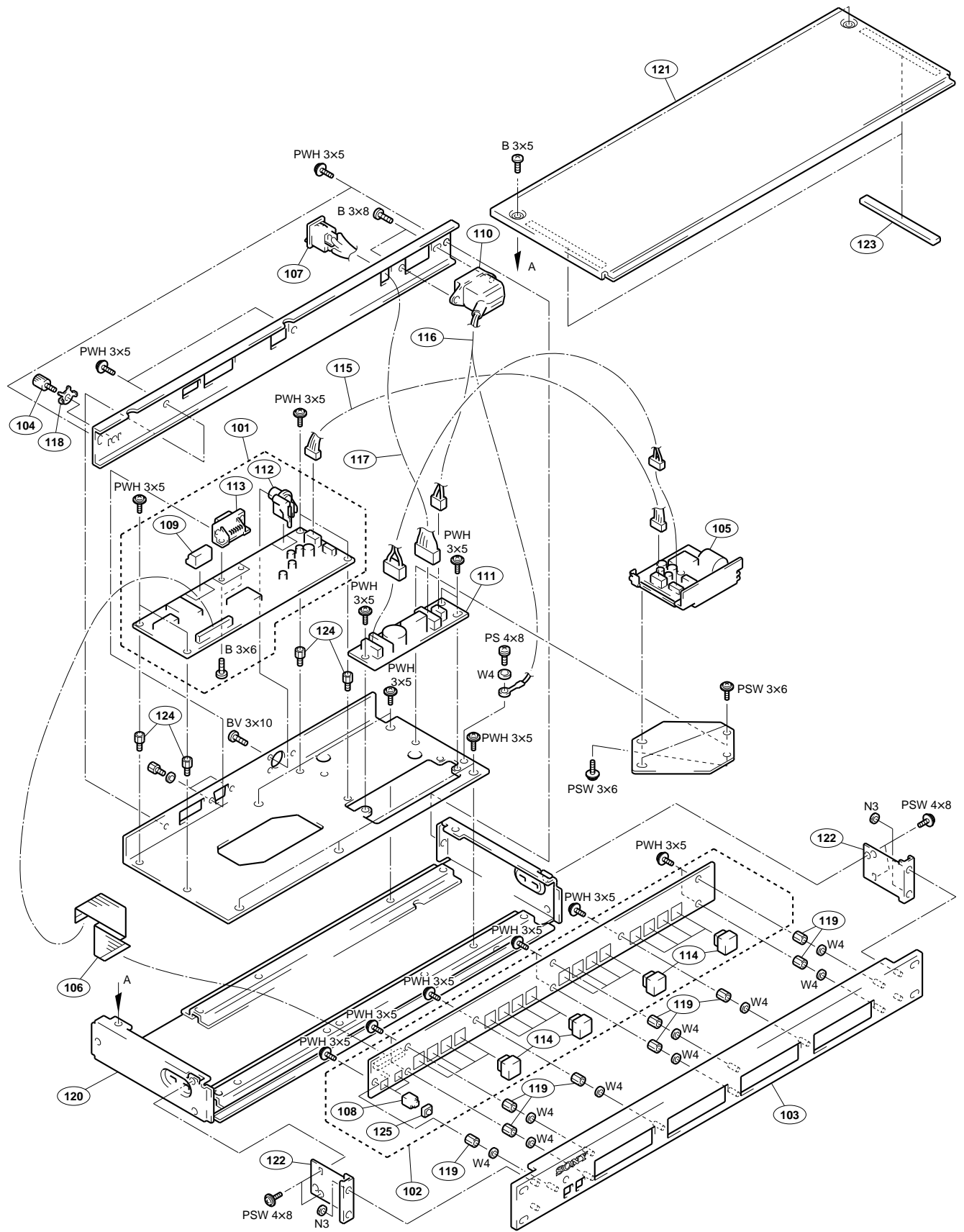
BKS-R3209

```
No.    Part No.      SP Discription

201    A-8313-810-A  o  MOUNTED CIRCUIT BOARD, CPU-244
202    A-8313-831-A  o  MOUNTED CIRCUIT BOARD, DP-259
203    A-8313-833-A  o  PANEL ASSY, FRONT
204    X-2068-004-0  s  TERMINAL ASSY
205  ⚠ 1-413-808-13  s  SWITCHING REGULATOR (10W)

206    1-558-261-31  s  WIRE, FLEXIBLE CARD
207  ⚠ 1-570-455-21  s  SWITCH, AC POWER ROCKER
208    1-571-656-21  s  SWITCH, PUSH
209    1-571-967-11  s  SWITCH, DIP (PIANO TYPE)
210  ⚠ 1-580-375-11  s  INLET 3P, MALE

211    1-646-862-11  o  PRINTED CIRCUIT BOARD, AC-145
212    1-695-038-11  s  CONNECTOR ASSY, BNC 1P
213    1-766-174-11  o  CONNECTOR, SQUARE TYPE (D-SUB)
214    1-771-100-11  s  SWITCH, PUSH (ILLUMINATED)
215    1-957-633-11  o  HARNESS (DC-REG1)

216    1-957-634-11  o  HARNESS (AC-INLET)
217    1-957-635-11  o  HARNESS (AC-SW)
218    2-068-008-00  s  WASHER
219    2-280-622-11  s  SUPPORT (M3), HEXAGON
220    3-166-058-03  o  CHASSIS (D150)

221    3-166-059-01  o  PLATE (D150), TOP
222    3-192-870-01  o  BRACKET, FRONT
223    3-193-064-01  o  GASKET (A)
224    4-861-433-00  o  SUPPORT (A)
225    4-928-315-51  s  KEY TOP
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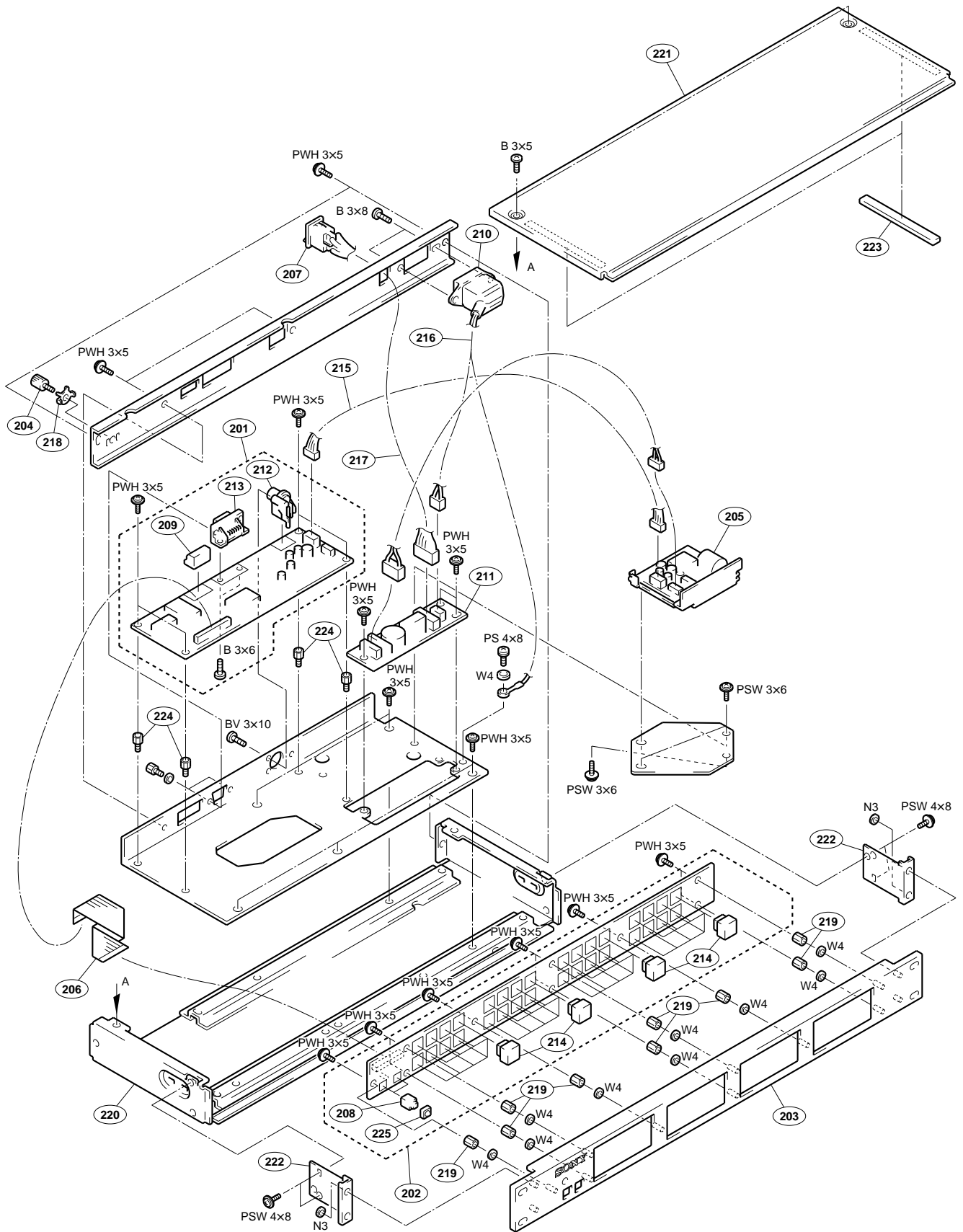
BKS-R3210

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No.     Part No.      SP Discription

301     A-8313-810-A  o  MOUNTED CIRCUIT BOARD, CPU-244
302     A-8313-820-A  o  MOUNTED CIRCUIT BOARD, DP-260
303     A-8313-823-A  o  PANEL ASSY, FRONT
304     X-2068-004-0  s  TERMINAL ASSY
305     X-3167-051-1  s  KNOB ASSY, VOLUME

306   ⚠ 1-413-808-13  s  SWITCHING REGULATOR (10W)
307     1-500-249-11  s  BEAD, FERRITE (CASE)
308     1-558-261-31  s  WIRE, FLEXIBLE CARD
309   ⚠ 1-570-455-21  s  SWITCH, AC POWER ROCKER
310     1-571-654-21  s  SWITCH, PUSH

311     1-571-656-21  s  SWITCH, PUSH
312     1-571-967-11  s  SWITCH, DIP (PIANO TYPE)
313   ⚠ 1-580-375-11  s  INLET 3P, MALE
314     1-646-862-11  o  PRINTED CIRCUIT BOARD, AC-145
315     1-665-769-11  o  PRINTED CIRCUIT BOARD, DP-262

316     1-695-038-11  s  CONNECTOR ASSY, BNC 1P
317     1-766-174-11  o  CONNECTOR, SQUARE TYPE (D-SUB)
318     1-771-100-11  s  SWITCH, PUSH (ILLUMINATED)
319     1-957-633-11  o  HARNESS (DC-REG1)
320     1-957-634-11  o  HARNESS (AC-INLET)

321     1-957-635-11  o  HARNESS (AC-SW)
322     2-068-008-00  s  WASHER
323     2-280-622-11  s  SUPPORT (M3), HEXAGON
324     3-166-058-03  o  CHASSIS (D150)
325     3-166-059-01  o  PLATE (D150), TOP

326     3-192-870-01  o  BRACKET, FRONT
327     3-192-877-01  o  WINDOW (L), LED
328     3-193-064-01  o  GASKET (A)
329     4-861-433-00  o  SUPPORT (A)
330     4-928-315-41  s  KEY TOP

331     4-928-315-51  s  KEY TOP
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PWH 3×5

B 3×5

325

B 3×8

313

328

309

A

PWH 3×5

320

304

321

319

322

307

301

316

PWH 3×5

312

317

306

PWH 3×5

314

PWH 3×5

329

B 3×6

PS 4×8

W4

315

329

BV 3×10

PWH 3×5

PWH 3×5

PSW 3×6

PSW 3×6

308

N3 PSW 4×8

326

PWH 3×5

PWH 3×5

323

A

PWH 3×5

318

W4

PWH 3×5

W4

323

324

PWH 3×5

327

305

PWH 3×5

318

323

310

330

W4

323

303

311

W4

326

331

323

302

W4

PSW 4×8

N3
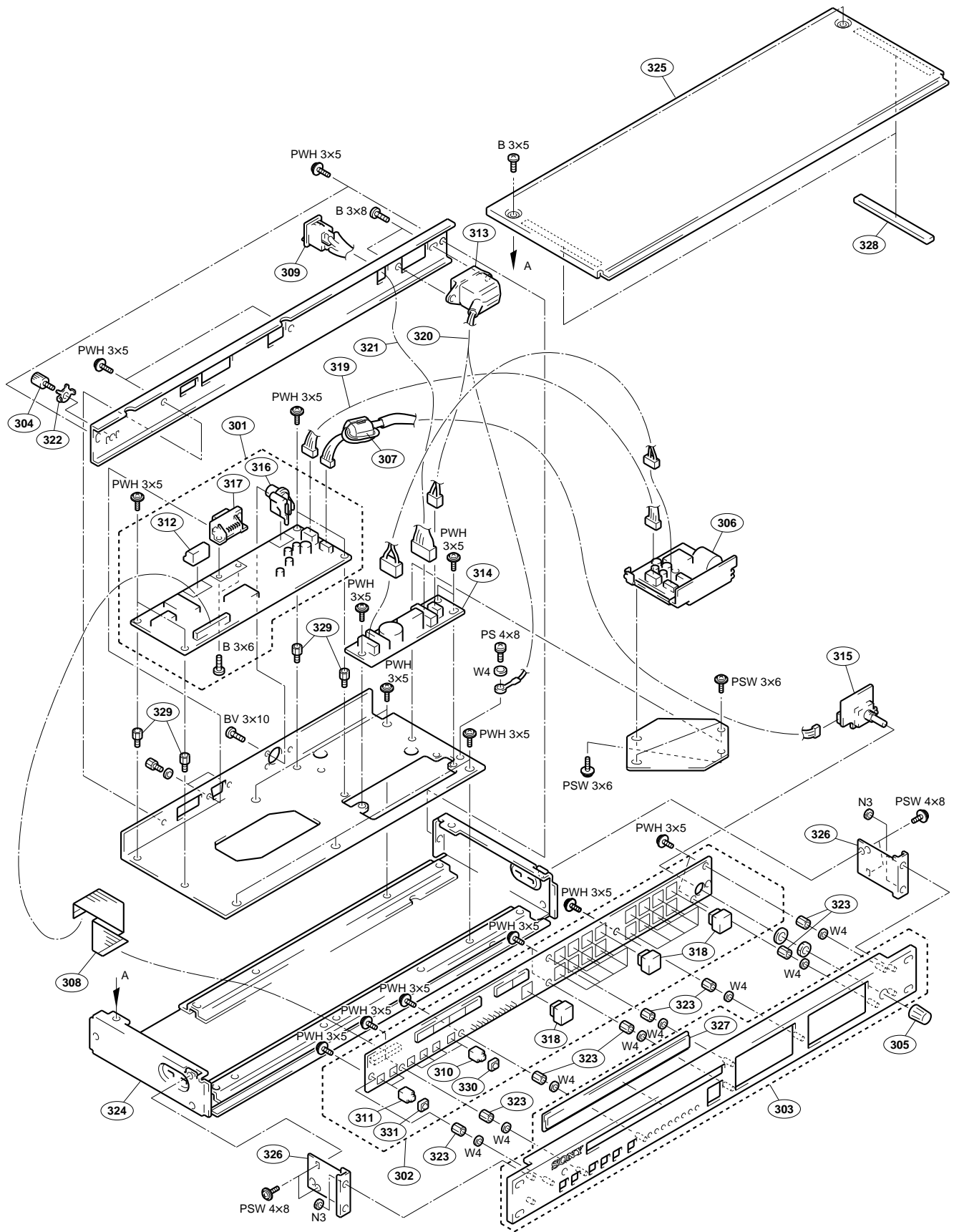
3-2. Electrical Parts List

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-------------
AC-145B BOARD
-------------
Ref. No.
or Q'ty  Part No.    SP Description

1pc      1-646-862-11 o PRINTED CIRCUIT BOARD, AC-145
2pcs   ⚠ 4-352-844-01 s PIN, LEAD, COATING

C1     ⚠ 1-115-166-11 s FILM 0.22uF 20% 275V
C2     ⚠ 1-136-212-12 s FILM 0.1uF 20% 250V
C3     ⚠ 1-113-907-51 s CERAMIC 0.0022uF 20% 250V
C4     ⚠ 1-113-907-51 s CERAMIC 0.0022uF 20% 250V

CN11   ⚠ 1-695-561-11 o PIN, CONNECTOR (PC BOARD) 7P
CN12   ⚠ 1-691-291-11 o PIN, CONNECTOR (PC BOARD) 5P
CN14   ⚠ 1-691-960-11 o PIN, CONNECTOR (PC BOARD) 3P

LF1    ⚠ 1-421-975-11 s TRANSFORMER, LINE FILTER

R1     ⚠ 1-214-964-00 s METAL 1M 1% 1/4W
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CPU-244 BOARD
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Ref. No.
or Q'ty  Part No.    SP Description

1pc      A-8313-810-A o MOUNTED CIRCUIT BOARD, CPU-244
1pc      4-352-844-01 s PIN, LEAD, COATING

C1       1-163-038-91 s CERAMIC 0.1uF 25V
C2       1-163-038-91 s CERAMIC 0.1uF 25V
C3       1-126-396-11 s ELECT, CHIP 47uF 20% 16V
C4       1-126-405-11 s ELECT, CHIP 10uF 20% 50V
C6       1-163-038-91 s CERAMIC 0.1uF 25V

C7       1-126-396-11 s ELECT, CHIP 47uF 20% 16V
C8       1-164-161-11 s CERAMIC, CHIP 0.0022uF 10% 100V
C9       1-163-133-00 s CERAMIC, CHIP 470PF 5% 50V
C10      1-163-038-91 s CERAMIC 0.1uF 25V
C11      1-163-038-91 s CERAMIC 0.1uF 25V

C12      1-163-038-91 s CERAMIC 0.1uF 25V
C13      1-163-038-91 s CERAMIC 0.1uF 25V
C14      1-163-038-91 s CERAMIC 0.1uF 25V
C15      1-163-038-91 s CERAMIC 0.1uF 25V
C16      1-163-038-91 s CERAMIC 0.1uF 25V

C17      1-163-227-11 s CERAMIC, CHIP 10PF 5% 50V
C18      1-163-038-91 s CERAMIC 0.1uF 25V
C19      1-163-227-11 s CERAMIC, CHIP 10PF 5% 50V
C20      1-126-394-11 s ELECT, CHIP 10uF 20% 16V
C21      1-163-038-91 s CERAMIC 0.1uF 25V

C22      1-163-038-91 s CERAMIC 0.1uF 25V
C23      1-163-038-91 s CERAMIC 0.1uF 25V
C24      1-163-038-91 s CERAMIC 0.1uF 25V
C25      1-126-396-11 s ELECT, CHIP 47uF 20% 16V
C26      1-163-038-91 s CERAMIC 0.1uF 25V

C27      1-126-396-11 s ELECT, CHIP 47uF 20% 16V
C28      1-163-038-91 s CERAMIC 0.1uF 25V
C29      1-163-038-91 s CERAMIC 0.1uF 25V
C30      1-126-396-11 s ELECT, CHIP 47uF 20% 16V
C31      1-163-038-91 s CERAMIC 0.1uF 25V

C32      1-163-038-91 s CERAMIC 0.1uF 25V
C33      1-163-038-91 s CERAMIC 0.1uF 25V
C34      1-163-038-91 s CERAMIC 0.1uF 25V
C35      1-163-038-91 s CERAMIC 0.1uF 25V
C37      1-163-038-91 s CERAMIC 0.1uF 25V

C38      1-126-396-11 s ELECT, CHIP 47uF 20% 16V
C39      1-163-038-91 s CERAMIC 0.1uF 25V
C40      1-163-038-91 s CERAMIC 0.1uF 25V
C42      1-163-038-91 s CERAMIC 0.1uF 25V
C43      1-163-038-91 s CERAMIC 0.1uF 25V

C44      1-163-038-91 s CERAMIC 0.1uF 25V
C45      1-163-038-91 s CERAMIC 0.1uF 25V
C46      1-163-038-91 s CERAMIC 0.1uF 25V
C47      1-126-396-11 s ELECT, CHIP 47uF 20% 16V
C48      1-126-395-11 s ELECT, CHIP 22uF 20% 16V

C50      1-163-038-91 s CERAMIC 0.1uF 25V
C51      1-163-038-91 s CERAMIC 0.1uF 25V

CN1      1-563-607-11 s CONNECTOR, FLEXIBLE 30P
CN2      1-506-469-11 s CONNECTOR 4P, MALE
CN3      1-766-174-11 o CONNECTOR, SQUARE TYPE (D-SUB)
CN4      1-580-838-11 o PIN, CONNECTOR (PC BOARD) 4P
CN5      1-506-702-11 o CONNECTOR, ILG 3P, MALE

CN7      1-695-038-11 s CONNECTOR ASSY, BNC 1P

CNI7     1-251-350-11 o SOCKET, IC (PLCC) 32P
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Ref. No.
or Q'ty  Part No.      SP Description

D1       8-719-800-76 s DIODE 1SS226

E1       1-535-877-22 o CHIP, CHECKER
E2       1-535-877-22 o CHIP, CHECKER
E3       1-535-877-22 o CHIP, CHECKER

FB1      1-543-309-21 s BEAD, FERRITE
FB2      1-543-309-21 s BEAD, FERRITE

FL1      1-239-903-11 s FILTER, CHIP EMI

IC1      8-759-980-44 s IC TL712CPS
IC2      8-759-239-55 s IC TC74HC123AF
IC4      8-759-925-78 s IC SN74HC10ANS
IC5      8-759-458-38 s IC KL5C80A20CFP
IC6      8-759-973-71 s IC TL7705CPS-B

IC7      8-759-463-96 o IC 29EE512-CPU244-V1.00
IC8      8-752-364-81 s IC CXK581000AM-70LL
IC9      8-759-926-77 s IC SN74HC541ANS
IC10     8-759-926-77 s IC SN74HC541ANS
IC11     8-759-926-49 s IC SN74HC245NS

IC12     8-759-180-84 s IC TC7W74F
IC13     8-759-252-59 s IC MAX202CSE
IC14     8-759-506-67 s IC DS8922M
IC15     8-759-031-84 s IC TC7S04F

L1       1-412-525-31 s INDUCTOR 10uH

Q1       8-729-216-22 s TRANSISTOR 2SA1162
Q2       8-729-122-63 s TRANSISTOR 2SA1226
Q3       8-729-901-00 s TRANSISTOR DTC124EK
Q4       8-729-120-28 s TRANSISTOR 2SC1623-L5L6
Q5       8-729-120-28 s TRANSISTOR 2SC1623-L5L6

Q6       8-729-120-28 s TRANSISTOR 2SC1623-L5L6
Q7       8-729-120-28 s TRANSISTOR 2SC1623-L5L6

R1       1-216-021-00 s METAL, CHIP 68 5% 1/10W
R2       1-216-097-91 s METAL, CHIP 100K 5% 1/10W
R3       1-216-073-00 s METAL, CHIP 10K 5% 1/10W
R4       1-216-041-00 s METAL, CHIP 470 5% 1/10W
R5       1-216-051-00 s METAL, CHIP 1.2K 5% 1/10W

R6       1-216-073-00 s METAL, CHIP 10K 5% 1/10W
R7       1-216-107-00 s METAL, CHIP 270K 5% 1/10W
R8       1-216-049-91 s METAL, CHIP 1K 5% 1/10W
R11      1-216-067-00 s METAL, CHIP 5.6K 5% 1/10W
R12      1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R13      1-216-101-00 s METAL, CHIP 150K 5% 1/10W
R14      1-216-089-91 s METAL, CHIP 47k 5% 1/10W
R15      1-216-061-00 s METAL, CHIP 3.3K 5% 1/10W
R16      1-216-073-00 s METAL, CHIP 10K 5% 1/10W
R17      1-216-025-91 s METAL, CHIP 100 5% 1/10W

R18      1-216-061-00 s METAL, CHIP 3.3K 5% 1/10W
R19      1-216-061-00 s METAL, CHIP 3.3K 5% 1/10W
R21      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R22      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R23      1-216-039-00 s METAL, CHIP 390 5% 1/10W

R24      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R25      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R26      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R27      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R28      1-216-039-00 s METAL, CHIP 390 5% 1/10W

R29      1-216-039-00 s METAL, CHIP 390 5% 1/10W
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Ref. No.
or Q'ty  Part No.      SP Description

R30      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R31      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R32      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R33      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R34      1-216-039-00 s METAL, CHIP 390 5% 1/10W

R35      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R36      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R37      1-216-089-91 s METAL, CHIP 47k 5% 1/10W
R38      1-216-059-00 s METAL, CHIP 2.7K 5% 1/10W
R39      1-216-089-91 s METAL, CHIP 47k 5% 1/10W

R40      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R41      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R42      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R43      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R44      1-216-089-91 s METAL, CHIP 47k 5% 1/10W

R45      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R46      1-216-121-91 s METAL, CHIP 1M 5% 1/10W
R47      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R48      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R49      1-216-039-00 s METAL, CHIP 390 5% 1/10W

R50      1-216-039-00 s METAL, CHIP 390 5% 1/10W
R51      1-216-089-91 s METAL, CHIP 47k 5% 1/10W
R52      1-216-117-00 s METAL, CHIP 680K 5% 1/10W
R53      1-216-051-00 s METAL, CHIP 1.2K 5% 1/10W
R54      1-216-073-00 s METAL, CHIP 10K 5% 1/10W

R55      1-216-073-00 s METAL, CHIP 10K 5% 1/10W
R56      1-216-065-00 s METAL, CHIP 4.7K 5% 1/10W
R57      1-216-073-00 s METAL, CHIP 10K 5% 1/10W
R58      1-216-073-00 s METAL, CHIP 10K 5% 1/10W
R59      1-216-065-00 s METAL, CHIP 4.7K 5% 1/10W

R60      1-216-073-00 s METAL, CHIP 10K 5% 1/10W
R61      1-216-073-00 s METAL, CHIP 10K 5% 1/10W
R62      1-216-037-00 s METAL, CHIP 330 5% 1/10W
R63      1-216-037-00 s METAL, CHIP 330 5% 1/10W
R64      1-216-065-00 s METAL, CHIP 4.7K 5% 1/10W

R65      1-216-065-00 s METAL, CHIP 4.7K 5% 1/10W
R66      1-216-037-00 s METAL, CHIP 330 5% 1/10W
R67      1-216-037-00 s METAL, CHIP 330 5% 1/10W
R68      1-216-037-00 s METAL, CHIP 330 5% 1/10W
R69      1-216-037-00 s METAL, CHIP 330 5% 1/10W

R70      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R71      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R72      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R73      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R74      1-216-025-91 s METAL, CHIP 100 5% 1/10W

R75      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R76      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R77      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R78      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R79      1-216-025-91 s METAL, CHIP 100 5% 1/10W

R80      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R81      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R82      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R83      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R84      1-216-025-91 s METAL, CHIP 100 5% 1/10W

R85      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R86      1-216-025-91 s METAL, CHIP 100 5% 1/10W
R87      1-216-025-91 s METAL, CHIP 100 5% 1/10W
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(CPU-244 BOARD)                                    ----------------------------
                                                   DP-258 BOARD ;for BKS-R1607
Ref. No.                                           ----------------------------
or Q'ty  Part No.    SP Description                Ref. No.
                                                   or Q'ty  Part No.    SP Description
RB1      1-239-389-11 s NWTWORK RESISTOR (CHIP) 47K
RB2      1-239-389-11 s NWTWORK RESISTOR (CHIP) 47K  1pc    A-8313-812-A o MOUNTED CIRCUIT BOARD, DP-258
RB3      1-239-389-11 s NWTWORK RESISTOR (CHIP) 47K  2pcs   4-928-315-41 s KEY TOP
RB4      1-239-389-11 s NWTWORK RESISTOR (CHIP) 47K  2pcs   4-928-315-51 s KEY TOP
RB6      1-236-904-11 s NETWORK RESISTOR (CHIP) 1.0K
                                                   C1       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
RB7      1-236-904-11 s NETWORK RESISTOR (CHIP) 1.0K C2      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C3       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S1       1-571-967-11 s SWITCH, DIP 8-CKT          C4       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S3       1-762-400-11 s SWITCH                     C5       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V

TP1      1-535-877-22 o CHIP, CHECKER              C6       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
TP2      1-535-877-22 o CHIP, CHECKER              C7       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
TP3      1-535-877-22 o CHIP, CHECKER              C8       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
TP4      1-535-877-22 o CHIP, CHECKER              C11      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
TP5      1-535-877-22 o CHIP, CHECKER              C21      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V

X1       1-567-928-11 s VIBLATOR, CERAMIC 20.00MHz C24      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C25      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C26      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C27      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C28      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V

                                                   C29      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C31      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C34      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C41      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C46      1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V

                                                   C47      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C48      1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V
                                                   C49      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C51      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C54      1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V

                                                   C61      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C71      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C81      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C91      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C101     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V

                                                   C111     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C121     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C131     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C141     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C151     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V

                                                   C161     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                   C331     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V

                                                   CN1      1-563-607-11 s CONNECTOR, FLEXIBLE 30P

                                                   D1       8-719-801-78 s DIODE 1S2837-T1
                                                   D2       8-719-801-78 s DIODE 1S2837-T1
                                                   D3       8-719-801-78 s DIODE 1S2837-T1
                                                   D4       8-719-801-78 s DIODE 1S2837-T1
                                                   D5       8-719-801-78 s DIODE 1S2837-T1

                                                   D6       8-719-801-78 s DIODE 1S2837-T1
                                                   D7       8-719-801-78 s DIODE 1S2837-T1
                                                   D8       8-719-801-78 s DIODE 1S2837-T1
                                                   D17      8-719-801-78 s DIODE 1S2837-T1
                                                   D18      8-719-801-78 s DIODE 1S2837-T1

                                                   D19      8-719-801-78 s DIODE 1S2837-T1
                                                   D21      8-719-801-78 s DIODE 1S2837-T1
                                                   D32      8-719-801-78 s DIODE 1S2837-T1

                                                   IC1      8-759-049-72 s IC SN74HC139APW-E05
                                                   IC2      8-759-049-70 s IC SN74HC138APW-E05
                                                   IC3      8-759-049-70 s IC SN74HC138APW-E05
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(DP-258 BOARD ;for BKS-R1607)

Ref. No.
or Q'ty Part No.   SP Description

IC4   8-759-031-84 s IC TC7S04F
IC5   8-759-049-70 s IC SN74HC138APW-E05
IC6   8-759-049-70 s IC SN74HC138APW-E05
IC7   8-759-049-70 s IC SN74HC138APW-E05
IC8   8-759-084-79 s IC TC7S14F

IC10   8-719-062-49 s DIODE SLY2016
IC18   8-759-233-42 s IC TC74HC574AF
IC19   8-759-233-42 s IC TC74HC574AF
IC20   8-719-062-50 s DIODE SLG2016
IC22   8-759-233-42 s IC TC74HC574AF

IC23   8-759-233-42 s IC TC74HC574AF
IC24   8-759-233-42 s IC TC74HC574AF
IC25   8-759-233-42 s IC TC74HC574AF
IC26   8-759-233-42 s IC TC74HC574AF
IC30   8-719-062-49 s DIODE SLY2016

IC40   8-719-062-50 s DIODE SLG2016
IC50   8-719-062-49 s DIODE SLY2016
IC60   8-719-062-50 s DIODE SLG2016
IC70   8-719-062-49 s DIODE SLY2016
IC80   8-719-062-50 s DIODE SLG2016

IC90   8-719-062-49 s DIODE SLY2016
IC100   8-719-062-50 s DIODE SLG2016
IC110   8-719-062-49 s DIODE SLY2016
IC120   8-719-062-50 s DIODE SLG2016
IC130   8-719-062-49 s DIODE SLY2016

IC140   8-719-062-50 s DIODE SLG2016
IC150   8-719-062-49 s DIODE SLY2016
IC160   8-719-062-50 s DIODE SLG2016
IC330   8-719-062-49 s DIODE SLY2016

Q11   8-729-928-90 s TRANSISTOR DTC114EE
Q12   8-729-928-90 s TRANSISTOR DTC114EE
Q13   8-729-928-90 s TRANSISTOR DTC114EE
Q14   8-729-928-90 s TRANSISTOR DTC114EE
Q21   8-729-928-90 s TRANSISTOR DTC114EE

Q22   8-729-928-90 s TRANSISTOR DTC114EE
Q23   8-729-928-90 s TRANSISTOR DTC114EE
Q24   8-729-928-90 s TRANSISTOR DTC114EE
Q31   8-729-928-90 s TRANSISTOR DTC114EE
Q32   8-729-928-90 s TRANSISTOR DTC114EE

Q33   8-729-928-90 s TRANSISTOR DTC114EE
Q34   8-729-928-90 s TRANSISTOR DTC114EE
Q41   8-729-928-90 s TRANSISTOR DTC114EE
Q42   8-729-928-90 s TRANSISTOR DTC114EE
Q43   8-729-928-90 s TRANSISTOR DTC114EE

Q44   8-729-928-90 s TRANSISTOR DTC114EE
Q51   8-729-928-90 s TRANSISTOR DTC114EE
Q52   8-729-928-90 s TRANSISTOR DTC114EE
Q53   8-729-928-90 s TRANSISTOR DTC114EE
Q54   8-729-928-90 s TRANSISTOR DTC114EE

Q61   8-729-928-90 s TRANSISTOR DTC114EE
Q62   8-729-928-90 s TRANSISTOR DTC114EE
Q63   8-729-928-90 s TRANSISTOR DTC114EE
Q64   8-729-928-90 s TRANSISTOR DTC114EE
Q71   8-729-928-90 s TRANSISTOR DTC114EE

Q72   8-729-928-90 s TRANSISTOR DTC114EE
Q73   8-729-928-90 s TRANSISTOR DTC114EE
Q74   8-729-928-90 s TRANSISTOR DTC114EE
Q81   8-729-928-90 s TRANSISTOR DTC114EE
Q82   8-729-928-90 s TRANSISTOR DTC114EE

Q83   8-729-928-90 s TRANSISTOR DTC114EE
Q84   8-729-928-90 s TRANSISTOR DTC114EE
Q91   8-729-928-90 s TRANSISTOR DTC114EE
Q92   8-729-928-90 s TRANSISTOR DTC114EE
Q93   8-729-928-90 s TRANSISTOR DTC114EE

Q94   8-729-928-90 s TRANSISTOR DTC114EE
Q101   8-729-928-90 s TRANSISTOR DTC114EE
Q102   8-729-928-90 s TRANSISTOR DTC114EE
Q103   8-729-928-90 s TRANSISTOR DTC114EE
Q104   8-729-928-90 s TRANSISTOR DTC114EE

Q111   8-729-928-90 s TRANSISTOR DTC114EE
Q112   8-729-928-90 s TRANSISTOR DTC114EE
Q113   8-729-928-90 s TRANSISTOR DTC114EE
Q114   8-729-928-90 s TRANSISTOR DTC114EE
Q121   8-729-928-90 s TRANSISTOR DTC114EE

Q122   8-729-928-90 s TRANSISTOR DTC114EE
Q123   8-729-928-90 s TRANSISTOR DTC114EE
Q124   8-729-928-90 s TRANSISTOR DTC114EE
Q131   8-729-928-90 s TRANSISTOR DTC114EE
Q132   8-729-928-90 s TRANSISTOR DTC114EE

Q133   8-729-928-90 s TRANSISTOR DTC114EE
Q134   8-729-928-90 s TRANSISTOR DTC114EE
Q141   8-729-928-90 s TRANSISTOR DTC114EE
Q142   8-729-928-90 s TRANSISTOR DTC114EE
Q143   8-729-928-90 s TRANSISTOR DTC114EE

Q144   8-729-928-90 s TRANSISTOR DTC114EE
Q151   8-729-928-90 s TRANSISTOR DTC114EE
Q152   8-729-928-90 s TRANSISTOR DTC114EE
Q153   8-729-928-90 s TRANSISTOR DTC114EE
Q154   8-729-928-90 s TRANSISTOR DTC114EE

Q161   8-729-928-90 s TRANSISTOR DTC114EE
Q162   8-729-928-90 s TRANSISTOR DTC114EE
Q163   8-729-928-90 s TRANSISTOR DTC114EE
Q164   8-729-928-90 s TRANSISTOR DTC114EE

R11   1-216-005-00 s METAL 15 5% 1/10W
R12   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R13   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R14   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R15   1-216-005-00 s METAL 15 5% 1/10W

R21   1-216-005-00 s METAL 15 5% 1/10W
R22   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R23   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R24   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R25   1-216-005-00 s METAL 15 5% 1/10W

R27   1-216-065-00 s METAL, CHIP 4.7K 5% 1/10W
R31   1-216-005-00 s METAL 15 5% 1/10W
R32   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R33   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R34   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R35   1-216-005-00 s METAL 15 5% 1/10W
R41   1-216-005-00 s METAL 15 5% 1/10W
R42   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R43   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R44   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R45   1-216-005-00 s METAL 15 5% 1/10W
R51   1-216-005-00 s METAL 15 5% 1/10W
R52   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R53   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R54   1-216-027-00 s METAL, CHIP 120 5% 1/10W

Ref. No.
or Q'ty Part No.   SP Description

R55   1-216-005-00 s METAL 15 5% 1/10W
R61   1-216-005-00 s METAL 15 5% 1/10W
R62   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R63   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R64   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R65   1-216-005-00 s METAL 15 5% 1/10W
R71   1-216-005-00 s METAL 15 5% 1/10W
R72   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R73   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R74   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R75   1-216-005-00 s METAL 15 5% 1/10W
R81   1-216-005-00 s METAL 15 5% 1/10W
R82   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R83   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R84   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R85   1-216-005-00 s METAL 15 5% 1/10W
R91   1-216-005-00 s METAL 15 5% 1/10W
R92   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R93   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R94   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R95   1-216-005-00 s METAL 15 5% 1/10W
R101   1-216-005-00 s METAL 15 5% 1/10W
R102   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R103   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R104   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R105   1-216-005-00 s METAL 15 5% 1/10W
R111   1-216-005-00 s METAL 15 5% 1/10W
R112   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R113   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R114   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R115   1-216-005-00 s METAL 15 5% 1/10W
R121   1-216-005-00 s METAL 15 5% 1/10W
R122   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R123   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R124   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R125   1-216-005-00 s METAL 15 5% 1/10W
R131   1-216-005-00 s METAL 15 5% 1/10W
R132   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R133   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R134   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R135   1-216-005-00 s METAL 15 5% 1/10W
R141   1-216-005-00 s METAL 15 5% 1/10W
R142   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R143   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R144   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R145   1-216-005-00 s METAL 15 5% 1/10W
R151   1-216-005-00 s METAL 15 5% 1/10W
R152   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R153   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R154   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R155   1-216-005-00 s METAL 15 5% 1/10W
R161   1-216-005-00 s METAL 15 5% 1/10W
R162   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R163   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R164   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R165   1-216-005-00 s METAL 15 5% 1/10W
R331   1-216-041-00 s METAL, CHIP 470 5% 1/10W
R341   1-216-041-00 s METAL, CHIP 470 5% 1/10W
R351   1-216-041-00 s METAL, CHIP 470 5% 1/10W

Ref. No.
or Q'ty Part No.   SP Description

R391   1-216-041-00 s METAL, CHIP 470 5% 1/10W

RB1   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K
RB2   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K
RB3   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K
RB4   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K
RB5   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K

RB86   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K

S1   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S2   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S3   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S4   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S5   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)

S6   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S7   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S8   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S9   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S10   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)

S11   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S12   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S13   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S14   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S15   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)

S16   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S33   1-571-656-21 s SWITCH, TACTIL
S34   1-571-656-21 s SWITCH, TACTIL
S35   1-571-654-21 s SWITCH, PUSH
S39   1-571-654-21 s SWITCH, PUSH

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DP-259 BOARD ;for BKS-R3209                        (DP-259 BOARD ;for BKS-R3209)
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Ref. No.                                           Ref. No.
or Q'ty  Part No.    SP Description                or Q'ty  Part No.    SP Description

1pc      A-8313-831-A o MOUNTED CIRCUIT BOARD, DP-259    IC26  8-759-050-39 s IC SN74HC574APW-E05
2pcs     4-928-315-51 s KEY TOP                          IC28  8-759-050-39 s IC SN74HC574APW-E05
                                                         IC29  8-759-050-39 s IC SN74HC574APW-E05
C1       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      IC32  8-759-050-39 s IC SN74HC574APW-E05
C2       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      IC33  8-759-050-39 s IC SN74HC574APW-E05
C3       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
C4       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      IC34  8-759-050-39 s IC SN74HC574APW-E05
C5       1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V       IC35  8-759-050-39 s IC SN74HC574APW-E05

C6       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q11   8-729-928-90 s TRANSISTOR DTC114EE
C24      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q12   8-729-928-90 s TRANSISTOR DTC114EE
C25      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q13   8-729-928-90 s TRANSISTOR DTC114EE
C26      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q14   8-729-928-90 s TRANSISTOR DTC114EE
C27      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q21   8-729-928-90 s TRANSISTOR DTC114EE

C28      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q22   8-729-928-90 s TRANSISTOR DTC114EE
C29      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q23   8-729-928-90 s TRANSISTOR DTC114EE
C34      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q24   8-729-928-90 s TRANSISTOR DTC114EE
C36      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q31   8-729-928-90 s TRANSISTOR DTC114EE
C37      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q32   8-729-928-90 s TRANSISTOR DTC114EE

C38      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q33   8-729-928-90 s TRANSISTOR DTC114EE
C39      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q34   8-729-928-90 s TRANSISTOR DTC114EE
C44      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q41   8-729-928-90 s TRANSISTOR DTC114EE
C45      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q42   8-729-928-90 s TRANSISTOR DTC114EE
C46      1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V       Q43   8-729-928-90 s TRANSISTOR DTC114EE

C47      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q44   8-729-928-90 s TRANSISTOR DTC114EE
C48      1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V       Q51   8-729-928-90 s TRANSISTOR DTC114EE
C49      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      Q52   8-729-928-90 s TRANSISTOR DTC114EE
                                                         Q53   8-729-928-90 s TRANSISTOR DTC114EE
CN1      1-563-607-11 s CONNECTOR, FLEXIBLE 30P          Q54   8-729-928-90 s TRANSISTOR DTC114EE

D1       8-719-801-78 s DIODE 1S2837-T1                  Q61   8-729-928-90 s TRANSISTOR DTC114EE
D2       8-719-801-78 s DIODE 1S2837-T1                  Q62   8-729-928-90 s TRANSISTOR DTC114EE
D3       8-719-801-78 s DIODE 1S2837-T1                  Q63   8-729-928-90 s TRANSISTOR DTC114EE
D4       8-719-801-78 s DIODE 1S2837-T1                  Q64   8-729-928-90 s TRANSISTOR DTC114EE
D5       8-719-801-78 s DIODE 1S2837-T1                  Q71   8-729-928-90 s TRANSISTOR DTC114EE

D6       8-719-801-78 s DIODE 1S2837-T1                  Q72   8-729-928-90 s TRANSISTOR DTC114EE
D7       8-719-801-78 s DIODE 1S2837-T1                  Q73   8-729-928-90 s TRANSISTOR DTC114EE
D8       8-719-801-78 s DIODE 1S2837-T1                  Q74   8-729-928-90 s TRANSISTOR DTC114EE
D9       8-719-801-78 s DIODE 1S2837-T1                  Q81   8-729-928-90 s TRANSISTOR DTC114EE
D10      8-719-801-78 s DIODE 1S2837-T1                  Q82   8-729-928-90 s TRANSISTOR DTC114EE

D11      8-719-801-78 s DIODE 1S2837-T1                  Q83   8-729-928-90 s TRANSISTOR DTC114EE
D12      8-719-801-78 s DIODE 1S2837-T1                  Q84   8-729-928-90 s TRANSISTOR DTC114EE
D13      8-719-801-78 s DIODE 1S2837-T1                  Q91   8-729-928-90 s TRANSISTOR DTC114EE
D14      8-719-801-78 s DIODE 1S2837-T1                  Q92   8-729-928-90 s TRANSISTOR DTC114EE
D15      8-719-801-78 s DIODE 1S2837-T1                  Q93   8-729-928-90 s TRANSISTOR DTC114EE

D16      8-719-801-78 s DIODE 1S2837-T1                  Q94   8-729-928-90 s TRANSISTOR DTC114EE
D17      8-719-801-78 s DIODE 1S2837-T1                  Q101  8-729-928-90 s TRANSISTOR DTC114EE
D20      8-719-801-78 s DIODE 1S2837-T1                  Q102  8-729-928-90 s TRANSISTOR DTC114EE
D21      8-719-801-78 s DIODE 1S2837-T1                  Q103  8-729-928-90 s TRANSISTOR DTC114EE
D30      8-719-052-10 s DIODE TLRA123                    Q104  8-729-928-90 s TRANSISTOR DTC114EE

IC1      8-759-049-72 s IC SN74HC139APW-E05              Q111  8-729-928-90 s TRANSISTOR DTC114EE
IC2      8-759-049-70 s IC SN74HC138APW-E05              Q112  8-729-928-90 s TRANSISTOR DTC114EE
IC3      8-759-049-70 s IC SN74HC138APW-E05              Q113  8-729-928-90 s TRANSISTOR DTC114EE
IC4      8-759-049-70 s IC SN74HC138APW-E05              Q114  8-729-928-90 s TRANSISTOR DTC114EE
IC5      8-759-084-79 s IC TC7S14F                       Q121  8-729-928-90 s TRANSISTOR DTC114EE

IC18     8-759-050-39 s IC SN74HC574APW-E05              Q122  8-729-928-90 s TRANSISTOR DTC114EE
IC19     8-759-050-39 s IC SN74HC574APW-E05              Q123  8-729-928-90 s TRANSISTOR DTC114EE
IC22     8-759-050-39 s IC SN74HC574APW-E05              Q124  8-729-928-90 s TRANSISTOR DTC114EE
IC23     8-759-050-39 s IC SN74HC574APW-E05              Q131  8-729-928-90 s TRANSISTOR DTC114EE
IC24     8-759-050-39 s IC SN74HC574APW-E05              Q132  8-729-928-90 s TRANSISTOR DTC114EE

IC25     8-759-050-39 s IC SN74HC574APW-E05              Q133  8-729-928-90 s TRANSISTOR DTC114EE
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(DP-259 BOARD ;for BKS-R3209)

Ref. No.
or Q'ty Part No.   SP Description

Q134   8-729-928-90 s TRANSISTOR DTC114EE
Q141   8-729-928-90 s TRANSISTOR DTC114EE
Q142   8-729-928-90 s TRANSISTOR DTC114EE
Q143   8-729-928-90 s TRANSISTOR DTC114EE
Q144   8-729-928-90 s TRANSISTOR DTC114EE

Q151   8-729-928-90 s TRANSISTOR DTC114EE
Q152   8-729-928-90 s TRANSISTOR DTC114EE
Q153   8-729-928-90 s TRANSISTOR DTC114EE
Q154   8-729-928-90 s TRANSISTOR DTC114EE
Q161   8-729-928-90 s TRANSISTOR DTC114EE

Q162   8-729-928-90 s TRANSISTOR DTC114EE
Q163   8-729-928-90 s TRANSISTOR DTC114EE
Q164   8-729-928-90 s TRANSISTOR DTC114EE
Q171   8-729-928-90 s TRANSISTOR DTC114EE
Q172   8-729-928-90 s TRANSISTOR DTC114EE

Q173   8-729-928-90 s TRANSISTOR DTC114EE
Q174   8-729-928-90 s TRANSISTOR DTC114EE
Q181   8-729-928-90 s TRANSISTOR DTC114EE
Q182   8-729-928-90 s TRANSISTOR DTC114EE
Q183   8-729-928-90 s TRANSISTOR DTC114EE

Q184   8-729-928-90 s TRANSISTOR DTC114EE
Q191   8-729-928-90 s TRANSISTOR DTC114EE
Q192   8-729-928-90 s TRANSISTOR DTC114EE
Q193   8-729-928-90 s TRANSISTOR DTC114EE
Q194   8-729-928-90 s TRANSISTOR DTC114EE

Q201   8-729-928-90 s TRANSISTOR DTC114EE
Q202   8-729-928-90 s TRANSISTOR DTC114EE
Q203   8-729-928-90 s TRANSISTOR DTC114EE
Q204   8-729-928-90 s TRANSISTOR DTC114EE
Q211   8-729-928-90 s TRANSISTOR DTC114EE

Q212   8-729-928-90 s TRANSISTOR DTC114EE
Q213   8-729-928-90 s TRANSISTOR DTC114EE
Q214   8-729-928-90 s TRANSISTOR DTC114EE
Q221   8-729-928-90 s TRANSISTOR DTC114EE
Q222   8-729-928-90 s TRANSISTOR DTC114EE

Q223   8-729-928-90 s TRANSISTOR DTC114EE
Q224   8-729-928-90 s TRANSISTOR DTC114EE
Q231   8-729-928-90 s TRANSISTOR DTC114EE
Q232   8-729-928-90 s TRANSISTOR DTC114EE
Q233   8-729-928-90 s TRANSISTOR DTC114EE

Q234   8-729-928-90 s TRANSISTOR DTC114EE
Q241   8-729-928-90 s TRANSISTOR DTC114EE
Q242   8-729-928-90 s TRANSISTOR DTC114EE
Q243   8-729-928-90 s TRANSISTOR DTC114EE
Q244   8-729-928-90 s TRANSISTOR DTC114EE

Q251   8-729-928-90 s TRANSISTOR DTC114EE
Q252   8-729-928-90 s TRANSISTOR DTC114EE
Q253   8-729-928-90 s TRANSISTOR DTC114EE
Q254   8-729-928-90 s TRANSISTOR DTC114EE
Q261   8-729-928-90 s TRANSISTOR DTC114EE

Q262   8-729-928-90 s TRANSISTOR DTC114EE
Q263   8-729-928-90 s TRANSISTOR DTC114EE
Q264   8-729-928-90 s TRANSISTOR DTC114EE
Q271   8-729-928-90 s TRANSISTOR DTC114EE
Q272   8-729-928-90 s TRANSISTOR DTC114EE

Q273   8-729-928-90 s TRANSISTOR DTC114EE
Q274   8-729-928-90 s TRANSISTOR DTC114EE
Q281   8-729-928-90 s TRANSISTOR DTC114EE
Q282   8-729-928-90 s TRANSISTOR DTC114EE

(DP-259 BOARD ;for BKS-R3209)

Ref. No.
or Q'ty Part No.   SP Description

Q283   8-729-928-90 s TRANSISTOR DTC114EE
Q284   8-729-928-90 s TRANSISTOR DTC114EE
Q291   8-729-928-90 s TRANSISTOR DTC114EE
Q292   8-729-928-90 s TRANSISTOR DTC114EE
Q293   8-729-928-90 s TRANSISTOR DTC114EE

Q294   8-729-928-90 s TRANSISTOR DTC114EE
Q301   8-729-928-90 s TRANSISTOR DTC114EE
Q302   8-729-928-90 s TRANSISTOR DTC114EE
Q303   8-729-928-90 s TRANSISTOR DTC114EE
Q304   8-729-928-90 s TRANSISTOR DTC114EE

Q311   8-729-928-90 s TRANSISTOR DTC114EE
Q312   8-729-928-90 s TRANSISTOR DTC114EE
Q313   8-729-928-90 s TRANSISTOR DTC114EE
Q314   8-729-928-90 s TRANSISTOR DTC114EE
Q321   8-729-928-90 s TRANSISTOR DTC114EE

Q322   8-729-928-90 s TRANSISTOR DTC114EE
Q323   8-729-928-90 s TRANSISTOR DTC114EE
Q324   8-729-928-90 s TRANSISTOR DTC114EE

R1   1-216-065-00 s METAL, CHIP 4.7K 5% 1/10W
R11   1-216-005-00 s METAL 15 5% 1/10W
R12   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R13   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R14   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R15   1-216-005-00 s METAL 15 5% 1/10W
R21   1-216-005-00 s METAL 15 5% 1/10W
R22   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R23   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R24   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R25   1-216-005-00 s METAL 15 5% 1/10W
R31   1-216-005-00 s METAL 15 5% 1/10W
R32   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R33   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R34   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R35   1-216-005-00 s METAL 15 5% 1/10W
R41   1-216-005-00 s METAL 15 5% 1/10W
R42   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R43   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R44   1-216-027-00 s METAL, CHIP 120 5% 1/10W

R45   1-216-005-00 s METAL 15 5% 1/10W
R49   1-216-057-00 s METAL, CHIP 2.2K 5% 1/10W
R51   1-216-005-00 s METAL 15 5% 1/10W
R52   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R53   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R54   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R55   1-216-005-00 s METAL 15 5% 1/10W
R61   1-216-005-00 s METAL 15 5% 1/10W
R62   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R63   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R64   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R65   1-216-005-00 s METAL 15 5% 1/10W
R71   1-216-005-00 s METAL 15 5% 1/10W
R72   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R73   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R74   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R75   1-216-005-00 s METAL 15 5% 1/10W
R81   1-216-005-00 s METAL 15 5% 1/10W
R82   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R83   1-216-025-91 s METAL, CHIP 100 5% 1/10W

(DP-259 BOARD ;for BKS-R3209)

Ref. No.
or Q'ty Part No.   SP Description

R84   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R85   1-216-005-00 s METAL 15 5% 1/10W
R91   1-216-005-00 s METAL 15 5% 1/10W
R92   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R93   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R94   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R95   1-216-005-00 s METAL 15 5% 1/10W
R101   1-216-005-00 s METAL 15 5% 1/10W
R102   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R103   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R104   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R105   1-216-005-00 s METAL 15 5% 1/10W
R111   1-216-005-00 s METAL 15 5% 1/10W
R112   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R113   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R114   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R115   1-216-005-00 s METAL 15 5% 1/10W
R121   1-216-005-00 s METAL 15 5% 1/10W
R122   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R123   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R124   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R125   1-216-005-00 s METAL 15 5% 1/10W
R131   1-216-005-00 s METAL 15 5% 1/10W
R132   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R133   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R134   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R135   1-216-005-00 s METAL 15 5% 1/10W
R141   1-216-005-00 s METAL 15 5% 1/10W
R142   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R143   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R144   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R145   1-216-005-00 s METAL 15 5% 1/10W
R151   1-216-005-00 s METAL 15 5% 1/10W
R152   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R153   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R154   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R155   1-216-005-00 s METAL 15 5% 1/10W
R161   1-216-005-00 s METAL 15 5% 1/10W
R162   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R163   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R164   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R165   1-216-005-00 s METAL 15 5% 1/10W
R171   1-216-005-00 s METAL 15 5% 1/10W
R172   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R173   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R174   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R175   1-216-005-00 s METAL 15 5% 1/10W
R181   1-216-005-00 s METAL 15 5% 1/10W
R182   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R183   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R184   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R185   1-216-005-00 s METAL 15 5% 1/10W
R191   1-216-005-00 s METAL 15 5% 1/10W
R192   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R193   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R194   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R195   1-216-005-00 s METAL 15 5% 1/10W
R201   1-216-005-00 s METAL 15 5% 1/10W
R202   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R203   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R204   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R205   1-216-005-00 s METAL 15 5% 1/10W
R211   1-216-005-00 s METAL 15 5% 1/10W
R212   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R213   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R214   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R215   1-216-005-00 s METAL 15 5% 1/10W
R221   1-216-005-00 s METAL 15 5% 1/10W
R222   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R223   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R224   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R225   1-216-005-00 s METAL 15 5% 1/10W
R231   1-216-005-00 s METAL 15 5% 1/10W
R232   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R233   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R234   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R235   1-216-005-00 s METAL 15 5% 1/10W
R241   1-216-005-00 s METAL 15 5% 1/10W
R242   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R243   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R244   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R245   1-216-005-00 s METAL 15 5% 1/10W
R251   1-216-005-00 s METAL 15 5% 1/10W
R252   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R253   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R254   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R255   1-216-005-00 s METAL 15 5% 1/10W
R261   1-216-005-00 s METAL 15 5% 1/10W
R262   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R263   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R264   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R265   1-216-005-00 s METAL 15 5% 1/10W
R271   1-216-005-00 s METAL 15 5% 1/10W
R272   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R273   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R274   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R275   1-216-005-00 s METAL 15 5% 1/10W
R281   1-216-005-00 s METAL 15 5% 1/10W
R282   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R283   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R284   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R285   1-216-005-00 s METAL 15 5% 1/10W
R291   1-216-005-00 s METAL 15 5% 1/10W
R292   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R293   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R294   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R295   1-216-005-00 s METAL 15 5% 1/10W
R301   1-216-005-00 s METAL 15 5% 1/10W
R302   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R303   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R304   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R305   1-216-005-00 s METAL 15 5% 1/10W
R311   1-216-005-00 s METAL 15 5% 1/10W
R312   1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R313   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R314   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R315   1-216-005-00 s METAL 15 5% 1/10W
R321   1-216-005-00 s METAL 15 5% 1/10W

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(DP-259 BOARD ;for BKS-R3209)                            ----------------------------
                                                         DP-259B BOARD ;for BKS-R1608
Ref. No.                                                 ----------------------------
or Q'ty  Part No.    SP Description                      Ref. No.
                                                         or Q'ty  Part No.    SP Description

R322    1-216-081-00 s METAL, CHIP 22K 5% 1/10W          1pc     A-8313-826-A o MOUNTED CIRCUIT BOARD, DP-259B
R323    1-216-025-91 s METAL, CHIP 100 5% 1/10W          2pcs    4-928-315-51 s KEY TOP
R324    1-216-027-00 s METAL, CHIP 120 5% 1/10W
R325    1-216-005-00 s METAL 15 5% 1/10W                 C1      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R331    1-216-041-00 s METAL, CHIP 470 5% 1/10W          C2      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                         C3      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R341    1-216-041-00 s METAL, CHIP 470 5% 1/10W          C4      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                         C5      1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V
RB1     1-236-908-11 s NETWORK RESISTOR (CHIP) 10K
RB2     1-236-908-11 s NETWORK RESISTOR (CHIP) 10K       C6      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
RB3     1-236-908-11 s NETWORK RESISTOR (CHIP) 10K       C34     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
RB4     1-236-908-11 s NETWORK RESISTOR (CHIP) 10K       C36     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
RB5     1-236-908-11 s NETWORK RESISTOR (CHIP) 10K       C37     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                         C38     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S1      1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S2      1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     C39     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S3      1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     C44     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S4      1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     C45     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S5      1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     C46     1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V
                                                         C47     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S6      1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S7      1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     C48     1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V
S8      1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     C49     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S9      1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S10     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     CN1     1-563-607-11 s CONNECTOR, FLEXIBLE 30P

S11     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D9      8-719-801-78 s DIODE 1S2837-T1
S12     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D10     8-719-801-78 s DIODE 1S2837-T1
S13     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D11     8-719-801-78 s DIODE 1S2837-T1
S14     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D12     8-719-801-78 s DIODE 1S2837-T1
S15     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D13     8-719-801-78 s DIODE 1S2837-T1

S16     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D14     8-719-801-78 s DIODE 1S2837-T1
S17     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D15     8-719-801-78 s DIODE 1S2837-T1
S18     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D16     8-719-801-78 s DIODE 1S2837-T1
S19     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D17     8-719-801-78 s DIODE 1S2837-T1
S20     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D18     8-719-801-78 s DIODE 1S2837-T1

S21     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D19     8-719-801-78 s DIODE 1S2837-T1
S22     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D20     8-719-801-78 s DIODE 1S2837-T1
S23     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     D30     8-719-052-10 s DIODE TLRA123
S24     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S25     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     IC1     8-759-049-72 s IC SN74HC139APW-E05
                                                         IC2     8-759-049-70 s IC SN74HC138APW-E05
S26     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     IC3     8-759-049-70 s IC SN74HC138APW-E05
S27     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     IC4     8-759-049-70 s IC SN74HC138APW-E05
S28     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     IC5     8-759-084-79 s IC TC7S14F
S29     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S30     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     IC26    8-759-050-39 s IC SN74HC574APW-E05
                                                         IC28    8-759-050-39 s IC SN74HC574APW-E05
S31     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     IC29    8-759-050-39 s IC SN74HC574APW-E05
S32     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)     IC32    8-759-050-39 s IC SN74HC574APW-E05
S33     1-571-656-21 s SWITCH, TACTIL                    IC33    8-759-050-39 s IC SN74HC574APW-E05
S34     1-571-656-21 s SWITCH, TACTIL
                                                         IC34    8-759-050-39 s IC SN74HC574APW-E05
                                                         IC35    8-759-050-39 s IC SN74HC574APW-E05

                                                         Q171    8-729-928-90 s TRANSISTOR DTC114EE
                                                         Q172    8-729-928-90 s TRANSISTOR DTC114EE
                                                         Q173    8-729-928-90 s TRANSISTOR DTC114EE
                                                         Q174    8-729-928-90 s TRANSISTOR DTC114EE
                                                         Q181    8-729-928-90 s TRANSISTOR DTC114EE

                                                         Q182    8-729-928-90 s TRANSISTOR DTC114EE
                                                         Q183    8-729-928-90 s TRANSISTOR DTC114EE
                                                         Q184    8-729-928-90 s TRANSISTOR DTC114EE
                                                         Q191    8-729-928-90 s TRANSISTOR DTC114EE
                                                         Q192    8-729-928-90 s TRANSISTOR DTC114EE

                                                         Q193    8-729-928-90 s TRANSISTOR DTC114EE
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Q194	8-729-928-90	s	TRANSISTOR DTC114EE
Q201	8-729-928-90	s	TRANSISTOR DTC114EE
Q202	8-729-928-90	s	TRANSISTOR DTC114EE
Q203	8-729-928-90	s	TRANSISTOR DTC114EE
Q204	8-729-928-90	s	TRANSISTOR DTC114EE
Q211	8-729-928-90	s	TRANSISTOR DTC114EE
Q212	8-729-928-90	s	TRANSISTOR DTC114EE
Q213	8-729-928-90	s	TRANSISTOR DTC114EE
Q214	8-729-928-90	s	TRANSISTOR DTC114EE
Q221	8-729-928-90	s	TRANSISTOR DTC114EE
Q222	8-729-928-90	s	TRANSISTOR DTC114EE
Q223	8-729-928-90	s	TRANSISTOR DTC114EE
Q224	8-729-928-90	s	TRANSISTOR DTC114EE
Q231	8-729-928-90	s	TRANSISTOR DTC114EE
Q232	8-729-928-90	s	TRANSISTOR DTC114EE
Q233	8-729-928-90	s	TRANSISTOR DTC114EE
Q234	8-729-928-90	s	TRANSISTOR DTC114EE
Q241	8-729-928-90	s	TRANSISTOR DTC114EE
Q242	8-729-928-90	s	TRANSISTOR DTC114EE
Q243	8-729-928-90	s	TRANSISTOR DTC114EE
Q244	8-729-928-90	s	TRANSISTOR DTC114EE
Q251	8-729-928-90	s	TRANSISTOR DTC114EE
Q252	8-729-928-90	s	TRANSISTOR DTC114EE
Q253	8-729-928-90	s	TRANSISTOR DTC114EE
Q254	8-729-928-90	s	TRANSISTOR DTC114EE
Q261	8-729-928-90	s	TRANSISTOR DTC114EE
Q262	8-729-928-90	s	TRANSISTOR DTC114EE
Q263	8-729-928-90	s	TRANSISTOR DTC114EE
Q264	8-729-928-90	s	TRANSISTOR DTC114EE
Q271	8-729-928-90	s	TRANSISTOR DTC114EE
Q272	8-729-928-90	s	TRANSISTOR DTC114EE
Q273	8-729-928-90	s	TRANSISTOR DTC114EE
Q274	8-729-928-90	s	TRANSISTOR DTC114EE
Q281	8-729-928-90	s	TRANSISTOR DTC114EE
Q282	8-729-928-90	s	TRANSISTOR DTC114EE
Q283	8-729-928-90	s	TRANSISTOR DTC114EE
Q284	8-729-928-90	s	TRANSISTOR DTC114EE
Q291	8-729-928-90	s	TRANSISTOR DTC114EE
Q292	8-729-928-90	s	TRANSISTOR DTC114EE
Q293	8-729-928-90	s	TRANSISTOR DTC114EE
Q294	8-729-928-90	s	TRANSISTOR DTC114EE
Q301	8-729-928-90	s	TRANSISTOR DTC114EE
Q302	8-729-928-90	s	TRANSISTOR DTC114EE
Q303	8-729-928-90	s	TRANSISTOR DTC114EE
Q304	8-729-928-90	s	TRANSISTOR DTC114EE
Q311	8-729-928-90	s	TRANSISTOR DTC114EE
Q312	8-729-928-90	s	TRANSISTOR DTC114EE
Q313	8-729-928-90	s	TRANSISTOR DTC114EE
Q314	8-729-928-90	s	TRANSISTOR DTC114EE
Q321	8-729-928-90	s	TRANSISTOR DTC114EE
Q322	8-729-928-90	s	TRANSISTOR DTC114EE
Q323	8-729-928-90	s	TRANSISTOR DTC114EE
Q324	8-729-928-90	s	TRANSISTOR DTC114EE
R1	1-216-065-00	s	METAL, CHIP 4.7K 5% 1/10W
R49	1-216-057-00	s	METAL, CHIP 2.2K 5% 1/10W
R171	1-216-005-00	s	METAL 15 5% 1/10W
R172	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R173	1-216-025-91	s	METAL, CHIP 100 5% 1/10W

R174	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R175	1-216-005-00	s	METAL 15 5% 1/10W
R181	1-216-005-00	s	METAL 15 5% 1/10W
R182	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R183	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R184	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R185	1-216-005-00	s	METAL 15 5% 1/10W
R191	1-216-005-00	s	METAL 15 5% 1/10W
R192	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R193	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R194	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R195	1-216-005-00	s	METAL 15 5% 1/10W
R201	1-216-005-00	s	METAL 15 5% 1/10W
R202	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R203	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R204	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R205	1-216-005-00	s	METAL 15 5% 1/10W
R211	1-216-005-00	s	METAL 15 5% 1/10W
R212	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R213	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R214	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R215	1-216-005-00	s	METAL 15 5% 1/10W
R221	1-216-005-00	s	METAL 15 5% 1/10W
R222	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R223	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R224	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R225	1-216-005-00	s	METAL 15 5% 1/10W
R231	1-216-005-00	s	METAL 15 5% 1/10W
R232	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R233	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R234	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R235	1-216-005-00	s	METAL 15 5% 1/10W
R241	1-216-005-00	s	METAL 15 5% 1/10W
R242	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R243	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R244	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R245	1-216-005-00	s	METAL 15 5% 1/10W
R251	1-216-005-00	s	METAL 15 5% 1/10W
R252	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R253	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R254	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R255	1-216-005-00	s	METAL 15 5% 1/10W
R261	1-216-005-00	s	METAL 15 5% 1/10W
R262	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R263	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R264	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R265	1-216-005-00	s	METAL 15 5% 1/10W
R271	1-216-005-00	s	METAL 15 5% 1/10W
R272	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R273	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R274	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R275	1-216-005-00	s	METAL 15 5% 1/10W
R281	1-216-005-00	s	METAL 15 5% 1/10W
R282	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W
R283	1-216-025-91	s	METAL, CHIP 100 5% 1/10W
R284	1-216-027-00	s	METAL, CHIP 120 5% 1/10W
R285	1-216-005-00	s	METAL 15 5% 1/10W
R291	1-216-005-00	s	METAL 15 5% 1/10W
R292	1-216-081-00	s	METAL, CHIP 22K 5% 1/10W

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(DP-259B BOARD ;for BKS-R1608)          ----------------------------
                                        DP-260 BOARD ;for BKS-R3210
Ref. No.                                ----------------------------
or Q'ty  Part No.    SP Description      Ref. No.
                                        or Q'ty  Part No.    SP Description

R293    1-216-025-91 s METAL, CHIP 100 5% 1/10W      1pc     A-8313-820-A o MOUNTED CIRCUIT BOARD, DP-260
R294    1-216-027-00 s METAL, CHIP 120 5% 1/10W      2pcs    4-928-315-51 s KEY TOP
R295    1-216-005-00 s METAL 15 5% 1/10W             4pcs    4-928-315-41 s KEY TOP
R301    1-216-005-00 s METAL 15 5% 1/10W
R302    1-216-081-00 s METAL, CHIP 22K 5% 1/10W      C1      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                     C2      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R303    1-216-025-91 s METAL, CHIP 100 5% 1/10W      C3      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R304    1-216-027-00 s METAL, CHIP 120 5% 1/10W      C4      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R305    1-216-005-00 s METAL 15 5% 1/10W             C5      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R311    1-216-005-00 s METAL 15 5% 1/10W
R312    1-216-081-00 s METAL, CHIP 22K 5% 1/10W      C6      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                     C7      1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R313    1-216-025-91 s METAL, CHIP 100 5% 1/10W      C17     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R314    1-216-027-00 s METAL, CHIP 120 5% 1/10W      C18     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R315    1-216-005-00 s METAL 15 5% 1/10W             C19     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R321    1-216-005-00 s METAL 15 5% 1/10W
R322    1-216-081-00 s METAL, CHIP 22K 5% 1/10W      C24     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                     C25     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R323    1-216-025-91 s METAL, CHIP 100 5% 1/10W      C26     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R324    1-216-027-00 s METAL, CHIP 120 5% 1/10W      C27     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R325    1-216-005-00 s METAL 15 5% 1/10W             C28     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
R331    1-216-041-00 s METAL, CHIP 470 5% 1/10W
R341    1-216-041-00 s METAL, CHIP 470 5% 1/10W      C29     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                     C34     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
RB1     1-236-908-11 s NETWORK RESISTOR (CHIP) 10K   C35     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
RB2     1-236-908-11 s NETWORK RESISTOR (CHIP) 10K   C46     1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V
RB3     1-236-908-11 s NETWORK RESISTOR (CHIP) 10K   C47     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
RB4     1-236-908-11 s NETWORK RESISTOR (CHIP) 10K
RB5     1-236-908-11 s NETWORK RESISTOR (CHIP) 10K   C48     1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V
                                                     C49     1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S17     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) C54     1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V
S18     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) C331    1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S19     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) C333    1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S20     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S21     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) C341    1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
                                                     C343    1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S22     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) C351    1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S23     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) C353    1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
S24     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S25     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) CN1     1-563-607-11 s CONNECTOR, FLEXIBLE 30P
S26     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
                                                     D1      8-719-801-78 s DIODE 1S2837-T1
S27     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) D2      8-719-801-78 s DIODE 1S2837-T1
S28     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) D3      8-719-801-78 s DIODE 1S2837-T1
S29     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) D4      8-719-801-78 s DIODE 1S2837-T1
S30     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) D5      8-719-801-78 s DIODE 1S2837-T1
S31     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
                                                     D6      8-719-801-78 s DIODE 1S2837-T1
S32     1-771-100-11 s SWITCH, TACTILE (ILLUMINATED) D7      8-719-801-78 s DIODE 1S2837-T1
S33     1-571-656-21 s SWITCH, TACTIL                D8      8-719-801-78 s DIODE 1S2837-T1
S34     1-571-656-21 s SWITCH, TACTIL                D17     8-719-801-78 s DIODE 1S2837-T1
                                                     D18     8-719-801-78 s DIODE 1S2837-T1

                                                     D19     8-719-801-78 s DIODE 1S2837-T1
                                                     D20     8-719-801-78 s DIODE 1S2837-T1
                                                     D21     8-719-801-78 s DIODE 1S2837-T1
                                                     D22     8-719-820-51 s DIODE TLSG126
                                                     D23     8-719-820-51 s DIODE TLSG126

                                                     D24     8-719-820-51 s DIODE TLSG126
                                                     D25     8-719-820-51 s DIODE TLSG126
                                                     D26     8-719-820-51 s DIODE TLSG126
                                                     D27     8-719-820-51 s DIODE TLSG126
                                                     D28     8-719-820-51 s DIODE TLSG126

                                                     D29     8-719-820-51 s DIODE TLSG126
                                                     D31     8-719-801-78 s DIODE 1S2837-T1
                                                     D32     8-719-801-78 s DIODE 1S2837-T1
                                                     D33     8-719-801-78 s DIODE 1S2837-T1
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(DP-260 BOARD ;for BKS-R3210)

Ref. No.
or Q'ty Part No.   SP Description

IC1   8-759-049-72 s IC SN74HC139APW-E05
IC2   8-759-049-70 s IC SN74HC138APW-E05
IC3   8-759-049-70 s IC SN74HC138APW-E05
IC4   8-759-049-70 s IC SN74HC138APW-E05
IC5   8-759-050-04 s IC SN74HC153APW-E05

IC6   8-759-031-84 s IC TC7S04F
IC7   8-759-084-79 s IC TC7S14F
IC15   8-759-049-70 s IC SN74HC138APW-E05
IC16   8-759-233-42 s IC TC74HC574AF
IC17   8-759-233-42 s IC TC74HC574AF

IC18   8-759-233-42 s IC TC74HC574AF
IC19   8-759-233-42 s IC TC74HC574AF
IC22   8-759-233-42 s IC TC74HC574AF
IC23   8-759-233-42 s IC TC74HC574AF
IC24   8-759-233-42 s IC TC74HC574AF

IC25   8-759-233-42 s IC TC74HC574AF
IC26   8-759-233-42 s IC TC74HC574AF
IC27   8-759-233-42 s IC TC74HC574AF
IC330   8-719-062-49 s DIODE SLY2016
IC331   8-719-062-49 s DIODE SLY2016

IC340   8-719-062-49 s DIODE SLY2016
IC341   8-719-062-49 s DIODE SLY2016
IC350   8-719-062-49 s DIODE SLY2016
IC351   8-719-062-49 s DIODE SLY2016

Q11   8-729-928-90 s TRANSISTOR DTC114EE
Q12   8-729-928-90 s TRANSISTOR DTC114EE
Q13   8-729-928-90 s TRANSISTOR DTC114EE
Q14   8-729-928-90 s TRANSISTOR DTC114EE
Q21   8-729-928-90 s TRANSISTOR DTC114EE

Q22   8-729-928-90 s TRANSISTOR DTC114EE
Q23   8-729-928-90 s TRANSISTOR DTC114EE
Q24   8-729-928-90 s TRANSISTOR DTC114EE
Q31   8-729-928-90 s TRANSISTOR DTC114EE
Q32   8-729-928-90 s TRANSISTOR DTC114EE

Q33   8-729-928-90 s TRANSISTOR DTC114EE
Q34   8-729-928-90 s TRANSISTOR DTC114EE
Q41   8-729-928-90 s TRANSISTOR DTC114EE
Q42   8-729-928-90 s TRANSISTOR DTC114EE
Q43   8-729-928-90 s TRANSISTOR DTC114EE

Q44   8-729-928-90 s TRANSISTOR DTC114EE
Q51   8-729-928-90 s TRANSISTOR DTC114EE
Q52   8-729-928-90 s TRANSISTOR DTC114EE
Q53   8-729-928-90 s TRANSISTOR DTC114EE
Q54   8-729-928-90 s TRANSISTOR DTC114EE

Q61   8-729-928-90 s TRANSISTOR DTC114EE
Q62   8-729-928-90 s TRANSISTOR DTC114EE
Q63   8-729-928-90 s TRANSISTOR DTC114EE
Q64   8-729-928-90 s TRANSISTOR DTC114EE
Q71   8-729-928-90 s TRANSISTOR DTC114EE

Q72   8-729-928-90 s TRANSISTOR DTC114EE
Q73   8-729-928-90 s TRANSISTOR DTC114EE
Q74   8-729-928-90 s TRANSISTOR DTC114EE
Q81   8-729-928-90 s TRANSISTOR DTC114EE
Q82   8-729-928-90 s TRANSISTOR DTC114EE

Q83   8-729-928-90 s TRANSISTOR DTC114EE
Q84   8-729-928-90 s TRANSISTOR DTC114EE
Q91   8-729-928-90 s TRANSISTOR DTC114EE
Q92   8-729-928-90 s TRANSISTOR DTC114EE
Q93   8-729-928-90 s TRANSISTOR DTC114EE

Q94   8-729-928-90 s TRANSISTOR DTC114EE
Q101   8-729-928-90 s TRANSISTOR DTC114EE
Q102   8-729-928-90 s TRANSISTOR DTC114EE
Q103   8-729-928-90 s TRANSISTOR DTC114EE
Q104   8-729-928-90 s TRANSISTOR DTC114EE

Q111   8-729-928-90 s TRANSISTOR DTC114EE
Q112   8-729-928-90 s TRANSISTOR DTC114EE
Q113   8-729-928-90 s TRANSISTOR DTC114EE
Q114   8-729-928-90 s TRANSISTOR DTC114EE
Q121   8-729-928-90 s TRANSISTOR DTC114EE

Q122   8-729-928-90 s TRANSISTOR DTC114EE
Q123   8-729-928-90 s TRANSISTOR DTC114EE
Q124   8-729-928-90 s TRANSISTOR DTC114EE
Q131   8-729-928-90 s TRANSISTOR DTC114EE
Q132   8-729-928-90 s TRANSISTOR DTC114EE

Q133   8-729-928-90 s TRANSISTOR DTC114EE
Q134   8-729-928-90 s TRANSISTOR DTC114EE
Q141   8-729-928-90 s TRANSISTOR DTC114EE
Q142   8-729-928-90 s TRANSISTOR DTC114EE
Q143   8-729-928-90 s TRANSISTOR DTC114EE

Q144   8-729-928-90 s TRANSISTOR DTC114EE
Q151   8-729-928-90 s TRANSISTOR DTC114EE
Q152   8-729-928-90 s TRANSISTOR DTC114EE
Q153   8-729-928-90 s TRANSISTOR DTC114EE
Q154   8-729-928-90 s TRANSISTOR DTC114EE

Q161   8-729-928-90 s TRANSISTOR DTC114EE
Q162   8-729-928-90 s TRANSISTOR DTC114EE
Q163   8-729-928-90 s TRANSISTOR DTC114EE
Q164   8-729-928-90 s TRANSISTOR DTC114EE
Q401   8-729-928-90 s TRANSISTOR DTC114EE

Q402   8-729-928-90 s TRANSISTOR DTC114EE
Q403   8-729-928-90 s TRANSISTOR DTC114EE
Q404   8-729-928-90 s TRANSISTOR DTC114EE

R1   1-216-037-00 s METAL, CHIP 330 5% 1/10W
R2   1-216-043-91 s METAL, CHIP 560 5% 1/10W
R3   1-216-037-00 s METAL, CHIP 330 5% 1/10W
R4   1-216-043-91 s METAL, CHIP 560 5% 1/10W
R5   1-216-037-00 s METAL, CHIP 330 5% 1/10W

R6   1-216-043-91 s METAL, CHIP 560 5% 1/10W
R7   1-216-037-00 s METAL, CHIP 330 5% 1/10W
R8   1-216-043-91 s METAL, CHIP 560 5% 1/10W
R9   1-216-037-00 s METAL, CHIP 330 5% 1/10W
R10   1-216-043-91 s METAL, CHIP 560 5% 1/10W

R11   1-216-005-00 s METAL 15 5% 1/10W
R12   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R13   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R14   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R15   1-216-005-00 s METAL 15 5% 1/10W

R16   1-216-037-00 s METAL, CHIP 330 5% 1/10W
R17   1-216-043-91 s METAL, CHIP 560 5% 1/10W
R18   1-216-037-00 s METAL, CHIP 330 5% 1/10W
R19   1-216-043-91 s METAL, CHIP 560 5% 1/10W
R20   1-216-037-00 s METAL, CHIP 330 5% 1/10W

R21   1-216-005-00 s METAL 15 5% 1/10W
R22   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R23   1-216-025-91 s METAL, CHIP 100 5% 1/10W
R24   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R25   1-216-005-00 s METAL 15 5% 1/10W

Ref. No.
or Q'ty Part No.   SP Description

R26   1-216-043-91 s METAL, CHIP 560 5% 1/10W
R27   1-216-065-00 s METAL, CHIP 4.7K 5% 1/10W
R31   1-216-005-00 s METAL 15 5% 1/10W
R32   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R33   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R34   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R35   1-216-005-00 s METAL 15 5% 1/10W
R41   1-216-005-00 s METAL 15 5% 1/10W
R42   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R43   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R44   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R45   1-216-005-00 s METAL 15 5% 1/10W
R51   1-216-005-00 s METAL 15 5% 1/10W
R52   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R53   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R54   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R55   1-216-005-00 s METAL 15 5% 1/10W
R61   1-216-005-00 s METAL 15 5% 1/10W
R62   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R63   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R64   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R65   1-216-005-00 s METAL 15 5% 1/10W
R71   1-216-005-00 s METAL 15 5% 1/10W
R72   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R73   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R74   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R75   1-216-005-00 s METAL 15 5% 1/10W
R81   1-216-005-00 s METAL 15 5% 1/10W
R82   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R83   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R84   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R85   1-216-005-00 s METAL 15 5% 1/10W
R91   1-216-005-00 s METAL 15 5% 1/10W
R92   1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R93   1-216-025-91 s METAL, CHIP 100 5% 1/10W

R94   1-216-027-00 s METAL, CHIP 120 5% 1/10W
R95   1-216-005-00 s METAL 15 5% 1/10W
R101 1-216-005-00 s METAL 15 5% 1/10W
R102 1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R103 1-216-025-91 s METAL, CHIP 100 5% 1/10W

R104 1-216-027-00 s METAL, CHIP 120 5% 1/10W
R105 1-216-005-00 s METAL 15 5% 1/10W
R111 1-216-005-00 s METAL 15 5% 1/10W
R112 1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R113 1-216-025-91 s METAL, CHIP 100 5% 1/10W

R114 1-216-027-00 s METAL, CHIP 120 5% 1/10W
R115 1-216-005-00 s METAL 15 5% 1/10W
R121 1-216-005-00 s METAL 15 5% 1/10W
R122 1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R123 1-216-025-91 s METAL, CHIP 100 5% 1/10W

R124 1-216-027-00 s METAL, CHIP 120 5% 1/10W
R125 1-216-005-00 s METAL 15 5% 1/10W
R131 1-216-005-00 s METAL 15 5% 1/10W
R132 1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R133 1-216-025-91 s METAL, CHIP 100 5% 1/10W

R134 1-216-027-00 s METAL, CHIP 120 5% 1/10W
R135 1-216-005-00 s METAL 15 5% 1/10W
R141 1-216-005-00 s METAL 15 5% 1/10W
R142 1-216-081-00 s METAL, CHIP 22K 5% 1/10W

Ref. No.
or Q'ty Part No.   SP Description

R143 1-216-025-91 s METAL, CHIP 100 5% 1/10W
R144 1-216-027-00 s METAL, CHIP 120 5% 1/10W
R145 1-216-005-00 s METAL 15 5% 1/10W
R151 1-216-005-00 s METAL 15 5% 1/10W
R152 1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R153 1-216-025-91 s METAL, CHIP 100 5% 1/10W
R154 1-216-027-00 s METAL, CHIP 120 5% 1/10W
R155 1-216-005-00 s METAL 15 5% 1/10W
R161 1-216-005-00 s METAL 15 5% 1/10W
R162 1-216-081-00 s METAL, CHIP 22K 5% 1/10W

R163 1-216-025-91 s METAL, CHIP 100 5% 1/10W
R164 1-216-027-00 s METAL, CHIP 120 5% 1/10W
R165 1-216-005-00 s METAL 15 5% 1/10W
R331 1-216-041-00 s METAL, CHIP 470 5% 1/10W
R341 1-216-041-00 s METAL, CHIP 470 5% 1/10W

R361 1-216-041-00 s METAL, CHIP 470 5% 1/10W
R371 1-216-041-00 s METAL, CHIP 470 5% 1/10W
R381 1-216-041-00 s METAL, CHIP 470 5% 1/10W
R391 1-216-041-00 s METAL, CHIP 470 5% 1/10W
R401 1-216-005-00 s METAL 15 5% 1/10W

R402 1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R403 1-216-025-91 s METAL, CHIP 100 5% 1/10W
R404 1-216-033-00 s METAL, CHIP 220 5% 1/10W
R405 1-216-005-00 s METAL 15 5% 1/10W

RB1   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K
RB2   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K
RB3   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K
RB4   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K
RB5   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K

RB6   1-236-908-11 s NETWORK RESISTOR (CHIP) 10K

S1   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S2   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S3   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S4   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S5   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)

S6   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S7   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S8   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S9   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S10   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)

S11   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S12   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S13   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S14   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S15   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)

S16   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)
S33   1-571-656-21 s SWITCH, TACTIL
S34   1-571-656-21 s SWITCH, TACTIL
S36   1-571-654-21 s SWITCH, PUSH
S37   1-571-654-21 s SWITCH, PUSH

S38   1-571-654-21 s SWITCH, PUSH
S39   1-571-654-21 s SWITCH, PUSH
S40   1-771-100-11 s SWITCH, TACTILE (ILLUMINATED)

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DP-261 BOARD ;for BKS-R1607                      FRAME
----------------------------                    -----
Ref. No.                                         Ref. No.
or Q'ty  Part No.    SP Description              or Q'ty  Part No.    SP Description

1pc      1-665-759-11 o PRINTED CIRCUIT BOARD, DP-261    1pc   ⚠ 1-413-808-13 s SWITCHING REGULATOR (10W)
                                                 1pc      1-500-249-11 s BEAD, FERRITE (CASE)
C1       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V                          (for BKS-R1607/R3210)
C2       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V    1pc      1-558-261-31 s WIRE, FLEXIBLE CARD 30P
C3       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
C4       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V    1pc      1-957-633-11 o HARNESS (DC-REG1)
C5       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V    1pc   ⚠ 1-957-634-11 o HARNESS (AC-INLET)
                                                 1pc   ⚠ 1-957-635-11 o HARNESS (AC-SW)
C6       1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V
C7       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
C8       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V    HARNESS (DC-REG1);
                                                   (CN4/CPU-244 Board to CN2/SWITCHING REGULATOR)
CN1      1-564-014-11 s CONNECTOR 4P, MALE
                                                     CN2   1-563-437-11 o HOUSING, CONNECTOR 4P
IC1      8-759-925-80 s IC SN74HC14ANS
IC2      8-759-925-90 s IC SN74HC74ANS
                                                 HARNESS (AC-INLET);
R1       1-216-081-00 s METAL, CHIP 22K 5% 1/10W      (CN4/AC-145 Board to AC INLET)
R2       1-216-081-00 s METAL, CHIP 22K 5% 1/10W
                                                     ⚠ 1-580-375-11 s INLET 3P, MALE
RV1      1-473-469-11 s ENCODER, ROTARY


                                                 HARNESS (AC-SW);
                                                   (CN11/AC-145 Board to AC POWER SWITCH)

                                                     ⚠ 1-570-455-21 s SWITCH, AC POWER SEESAW


----------------------------
DP-262 BOARD ;for BKS-R3210                      HARNESS (AC-REG1);
----------------------------                      (CN12/AC-145 Board to CN1/SWITCHING REGULATOR)
Ref. No.
or Q'ty  Part No.    SP Description               CN12 ⚠ 1-562-286-11 o HOUSING, CONNECTOR 5P
                                                  CN1  ⚠ 1-573-719-11 o HOUSING, CONNECTOR 5P
1pc      1-665-769-11 o PRINTED CIRCUIT BOARD, DP-262

C1       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
C2       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V    HARNESS, SUB (RTE); for BKS-R1607/R3210
C3       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      (CN1/DP-261/262 Board to CN2/CPU-244 Board)
C4       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V
C5       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      CN1   1-569-197-11 o HOUSING, CONNECTOR 4P
                                                  4pcs  1-569-193-11 o CONTACT, FEMALE
C6       1-126-392-11 s ELECT, CHIP 100uF 20% 6.3V      CN2   1-569-197-11 o HOUSING, CONNECTOR 4P
C7       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V      4pcs  1-569-193-11 o CONTACT, FEMALE
C8       1-164-004-11 s CERAMIC, CHIP 0.1uF 10% 25V

CN1      1-564-014-11 s CONNECTOR 4P, MALE

IC1      8-759-925-80 s IC SN74HC14ANS
IC2      8-759-925-90 s IC SN74HC74ANS

R1       1-216-081-00 s METAL, CHIP 22K 5% 1/10W
R2       1-216-081-00 s METAL, CHIP 22K 5% 1/10W

RV1      1-473-469-11 s ENCODER, ROTARY
```

3-3. Packing Materials & Supplied Accessories

```
Ref. No.
or Q'ty  Part No.     SP Description

  1pc   1-563-852-11 o CONNECTOR, BNC-T, MALE/FEMALE
  1pc   3-179-054-01 o TOOL, CAP PULL
  1pc   3-192-875-01 o LABEL (A), KEY
  1pc   3-192-878-01 o LABEL (B), KEY
                       (This part only for BKS-R3210)
```

Section 4
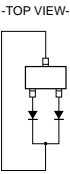# Semiconductor Pin Assignments

ここに記載されている半導体は，それぞれの機能を等価的に表したものです。　なお，互換性のない型名を併記していることがありますので，部品を交換するときは，Spare Partsの章を参照してください。
等価回路はＩＣメーカーのデータブックに従いました。

Semiconductors of which functions are equivalent are described here. For parts replacement, refer to the section of Spare Parts in this manual. The circuit diagram of each IC is obtained from the IC data book published by the manufacturer.

Diode, Transistor, IC

DIODE

-TOP VIEW-

1S2837-T1
1SS184

-TOP VIEW-

1SS123-T1
1SS226

TLRA123 ;RED

TLSG126 ;A=RED,B=GRN

B   A

TRANSISTOR
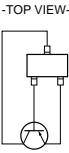
-TOP VIEW-

2SA1162G
2SA1226-E4
2SA1226-T1E3E4
2SA812-T1-M5M6
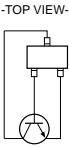
-TOP VIEW-

2SC1623
2SC2412K-T-146-QR
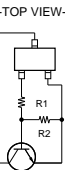
-TOP VIEW-

DTC114EE (R1 = 10 K,R2 = 10 K)
DTC114EE-TL
DTC124EK (R1=22K, R2=22K)
DTC124EKA-T146

R1
R2

IC

DS8922M (NS)FLAT PACKAGE
DS8922M-T3

DUAL DIFFERENTIAL LINE DRIVER/RECEIVER
-TOP VIEW-

RI1+ RI1− DO1+ DO1− DO2− DO2+ RI2− RI2+
16   15   14   13   12   11   10   9

R1   D1   D2   R2

Vcc
(+5V)   GND

1   2   3   4   5   6   7   8
RO1 DI1   EN1 EN2   DI2 RO2
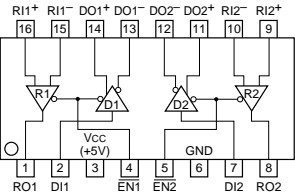
EN1	RO1, DO1		EN2	RO2, DO2
0	ACTIVE		0	ACTIVE
1	HI-Z		1	HI-Z

0   ; LOW LEVEL
1   ; HIGH LEVEL
HI-Z ; HIGH IMPEDANCE

MAX202CSE (MAXIM)
MAX202CSE-TE2

RS-232 TRANSMITTER/RECEIVER
— TOP VIEW —

C1+ 1   Vcc   16
                   (+5 V)
V+   2   GND   15
C1− 3   14 T1 OUT
C2+ 4   13 R1 IN
C2− 5   12 R1 OUT
V−   6   11 T1 IN
T2 OUT 7   10 T2 IN
R2 IN 8   9 R2 OUT

1 C1+   V+
3 C1−
4 C2+   V−
5 C2−
11 T1   T1 14
10 T2   T2
13 R1   R1 12
8 R2   R2 9

R1, 2 ; RECEIVER 1, 2
T1, 2 ; TRANSMITTER 1, 2

+5 V   0.1 µF
0.1 µF INPUT 6.3 V
        16
1
        +5 V to +10 V   2 +10 V
0.1 µF 3   VOLTAGE DOUBLER
        +10 V to −10 V   −10 V
0.1 µF 4   VOLTAGE INVERTER 6 0.1 µF
        5   16 V
        +5 V
        400 K
11   T1   14
        +5 V
TTL/CMOS   RS-232
INPUTS 400 K   OUTPUTS
10   T2   7
        12   R1   13
TTL/CMOS   5 K   RS-232
OUTPUTS 9   R2   8   INPUTS
                         5 K
                    15

CXK581000AM-70LL (SONY)FLAT PACKAGE

C-MOS 1M (131,072 x 8) -BIT STATIC RAM
—TOP VIEW—

Pin		Pin	
1	NC	32	V_DD (+5V)
2	A16 IN	31	A15 IN
3	A14 IN	30	CE2 IN
4	A12 IN	29	WE IN
5	A7 IN	28	A13 IN
6	A6 IN	27	A8 IN
7	A5 IN	26	A9 IN
8	A4 IN	25	A11 IN
9	A3 IN	24	OE IN
10	A2 IN	23	A10 IN
11	A1 IN	22	CE1 IN
12	A0 IN	21	I/O8
13	I/O1	20	I/O7
14	I/O2	19	I/O6
15	I/O3	18	I/O5
16	GND	17	I/O4

A0 - A16 ; ADDRESS INPUTS
CE1, CE2 ; CHIP ENABLE 1, 2 INPUTS
I/O1 - I/O8 ; DATA INPUTS/OUTPUTS
OE ; OUTPUT ENABLE INPUT
WE ; WRITE ENABLE INPUT

MODE :

CE1	CE2	OE	WE	MODE	DATA OUTPUT
1	X	X	X	NO SELECTION	
X	0	X	X	(POWER DOWN)	HI - Z
0	1	1	1	OUTPUT DISABLE	
0	1	0	1	READ	D OUT
0	1	X	0	WRITE	D IN

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI - Z ; HIGH IMPEDANCE

SC7S04F (MOTOROLA)CHIP PACKAGE
TC7S04F(TE85R)

C-MOS INVERTER

-TOP VIEW-

$Y = \bar{A}$

A	Y
0	1
1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

TYPE	V_DD
7S04F 7SU04F 7SU04FU	+2 to +6V
4S69F 4SU69F	+3 to +18V
7SH04FU 7SHU04FU	+2 to +5.5V

SLG2016 ;GREEN(SIEMENS)
SLY2016 ;YELLOW(SIEMENS)

C-MOS 4-DIGIT 5×7 DOT MATRIX ALPHANUMERIC INTELLIGENT DISPLAY
-TOP VIEW-

A0 - A1 ; DIGIT SELECT INPUT
BL ; DISPLAY BLANK INPUT
CLR ; CLEAR INPUT
D0 - D6 ; DATA INPUT
WR ; WRITE INPUT
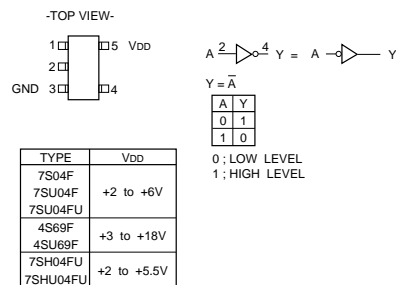
KL5C80A20CFP (KAWATETSU) FLAT PACKAGE

C-MOS HIGH SPEED 8-BIT MPU
-TOP VIEW-

PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL	PIN NO.	I/O	SIGNAL
1	O	TXDH	26	I	$\overline{CTS0}$	51	I/O	D7	76	I/O	P33/$\overline{CTSH}$
2	—	V$_{DD}$	27	I	RXD0	52	—	V$_{DD}$	77	I/O	P32/$\overline{RTSH}$
3	—	V$_{DD}$	28	—	V$_{DD}$	53	—	V$_{DD}$	78	—	V$_{DD}$
4	I/O	TRXCH	29	—	GND	54	I/O	D6	79	—	GND
5	O	PALAT/$\overline{DACK0}$	30	O	TXD0	55	I/O	D5	80	I/O	P31/$\overline{DCDH}$
6	I	ERDY	31	O	A15	56	I/O	D4	81	I/O	P30/$\overline{DTRH}$
7	O	$\overline{EMRD}$	32	O	A14	57	I/O	D3	82	I/O	P27/$\overline{DSR0}$
8	O	$\overline{EMWR}$	33	O	A13	58	I/O	D2	83	I/O	P26/$\overline{DTR0}$
9	O	$\overline{EIORD}$	34	—	V$_{DD}$	59	I	$\overline{RESET}$	84	I/O	P25/DREQ0
10	O	$\overline{EIOWR}$	35	O	A12	60	I/O	D1	85	I/O	P24/DREQ1
11	O	$\overline{MCS}$	36	O	A11	61	—	V$_{DD}$	86	I/O	P23/$\overline{DACK1}$
12	I/O	P07/GATE3	37	—	GND	62	I/O	D0	87	I/O	P22
13	I/O	P06/GATE2/$\overline{NMI}$	38	O	A10	63	I	XIN	88	I/O	P21
14	I	BFMOD	39	O	A9	64	O	XOUT	89	I/O	P20
15	—	GND	40	O	A8	65	—	GND	90	I	RTXCH
16	—	GND	41	O	A7	66	—	GND	91	I/O	P17/$\overline{EXBACK}$
17	I/O	P05/GATE1/TRXC1	42	O	A6	67	—	GND	92	I/O	P16/$\overline{EXBREQ}$
18	I/O	P04/GATE0/TRXC0	43	O	A5	68	O	A19	93	I/O	P15/RXS
19	I/O	BFSIO	44	—	V$_{DD}$	69	O	A18	94	I/O	P14/TXS
20	I/O	P03/OUT3	45	O	A4	70	O	A17	95	—	GND
21	I/O	P02/OUT2	46	O	A3	71	O	A16	96	I/O	P13/UASEL
22	I/O	P01/OUT1	47	O	A2	72	I/O	P37/TXD1	97	I/O	P12/$\overline{CAS}$
23	I/O	P00/OUT0	48	O	A1	73	I/O	P36/RXD1	98	I/O	P11/$\overline{RAS}$
24	O	CLK	49	—	GND	74	I/O	P35/$\overline{CTS1}$	99	I/O	P10/SCK
25	O	$\overline{RTS0}$	50	O	A0	75	I/O	P34/$\overline{RTS1}$	100	I	RXDH

INPUT
BFMOD	; MODE SELECT
CTS1, CTS0	; UART CLEAR TO SEND
CTSH	; CLEAR TO SEND FOR HDLC SERIAL INTERFACE
DCDH	; DATA CARRIER DETECT FOR HDLC SERIAL INTERFACE
DREQ1, DREQ0	; DMA REQUEST
DSR0	; UART DATA SET READY
ERDY	; EXTERNAL WAIT REQUEST
EXBREQ	; EXTERNAL DEVICE REQUEST
GATE3 - GATE0	; GATES OF TIMER/COUNTER CHANNELS 3 TO 0
NMI	; NON-MASKABLE INTERRUPT
RESET	; SYSTEM RESET
RTXCH	; TRANSFER/RECEIVE CLOCK FOR HDLC SERIAL INTERFACE
RXD1, RXD0	; UART RECEIVE DATA
RXDH	; RECEIVE DATA FOR HDLC SERIAL INTERFACE
RXS	; RECEIVE DATA FOR SIO
TRXC1, TRXC0	; UART TRANSFER/RECEIVE CLOCK
XIN	; CRYSTAL OSCILLATOR

OUTPUT
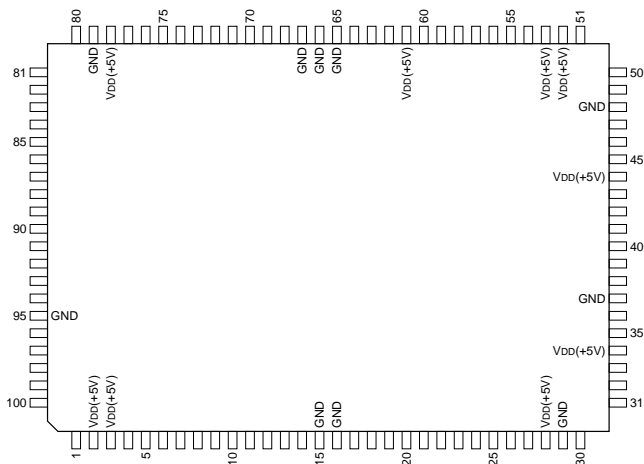|	
A19 - A0	; ADDRESS BUS
CAS	; DRAM CONTROLLER CAS
CLK	; INTERNAL CLOCK
DACK1, DACK0	; DMA REQUEST ACKNOWLEDGE
DTR0	; UART DATA TERMINAL READY
DTRH	; DATA TERMINAL READY FOR HDLC SERIAL INTERFACE
EIORD	; EXTERNAL I/O DEVICE READ
EIOWR	; EXTERNAL I/O DEVICE WRITE
EMRD	; EXTERNAL MEMORY READ
EMWR	; EXTERNAL MEMORY WRITE
EXBACK	; EXTERNAL DEVICE REQUEST ACKNOWLEDGE
MCS	; EXTERNAL RAM CHIP SELECT
OUT3 - OUT0	; OUTPUTS OF TIMER/COUNTER CHANNELS 3 TO 0
PALAT	; I/O ADDRESS LATCH
RAS	; DRAM CONTROLLER RAS
RTS1, RTS0	; UART REQUEST TO SEND
RTSH	; REQUEST TO SEND FOR HDLC SERIAL INTERFACE
TXD1, TXD0	; UART TRANSFER DATA
TXDH	; TRANSFER DATA FOR HDLC SERIAL INTERFACE
TXS	; TRANSFER DATA FOR SIO
UASEL	; DRAM CONTROLLER UPPER ADDRESS SELECT
XOUT	; CRYSTAL OSCILLATOR

INPUT/OUTPUT
BFSIO	; BUG FINDER
D7 - D0	; EXTERNAL DATA BUS
P07 - P00	; P0 PARALLEL PORT
P17 - P10	; P1 PARALLEL PORT
P27 - P20	; P2 PARALLEL PORT
P37 - P30	; P3 PARALLEL PORT
SCK	; SERIAL CLOCK FOR SIO
TRXCH	; TRANSFER/RECEIVE CLOCK FOR HDLC SERIAL INTERFACE

SN74HC10ANS (TI)FLAT PACKAGE
SN74HC10ANS-E05

C-MOS 3-INPUT NAND GATE
-TOP VIEW-
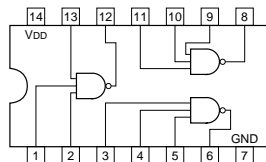
$$Y = \overline{ABC} = \overline{A} + \overline{B} + \overline{C}$$

A	B	C	Y
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	1
1	0	1	1
1	1	0	1
1	1	1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

NOTE :

TYPE	VDD
40H	+2 to +8V
74VHC	+2 to +5.5V
OTHERS	+2 to +6V

SN74HC14ANS (TI)FLAT PACKAGE
SN74HC14ANS-E05

C-MOS HEX SCHMITT TRIGGER INVERTERS
—TOP VIEW—

$$Y = \overline{A}$$

A	Y
0	1
1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

VDD	VN	VP
2.0V	0.75V	1.25V
4.5V	1.9V	2.7V
6.0V	2.6V	3.6V
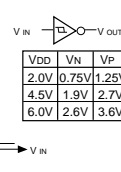
NOTE :

TYPE	VDD
TC74AC/VHC	+2V to +5.5V
OTHER TYPES	+2V to +6V

SN74HC138APW-E05 (TI)FLAT PACKAGE

C-MOS 3-TO-8 LINE DECODER / DEMULTIPLEXER
—TOP VIEW—

A IN	1	VDD	16
B IN	2		15	$\overline{Y0}$ OUT
C IN	3		14	$\overline{Y1}$ OUT
$\overline{EN1}$ IN	4		13	$\overline{Y2}$ OUT
$\overline{EN2}$ IN	5		12	$\overline{Y3}$ OUT
EN3 IN	6		11	$\overline{Y4}$ OUT
$\overline{Y7}$ OUT	7		10	$\overline{Y5}$ OUT
	8	GND	9	$\overline{Y6}$ OUT
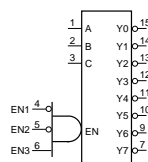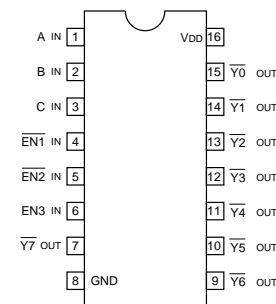
INPUTS				OUTPUTS								
EN	C	B	A	Y7	Y6	Y5	Y4	Y3	Y2	Y1	Y0
0	X	X	X	1	1	1	1	1	1	1	1
1	0	0	0	1	1	1	1	1	1	1	0
1	0	0	1	1	1	1	1	1	1	0	1
1	0	1	0	1	1	1	1	1	0	1	1
1	0	1	1	1	1	1	1	0	1	1	1
1	1	0	0	1	1	1	0	1	1	1	1
1	1	0	1	1	1	0	1	1	1	1	1
1	1	1	0	1	0	1	1	1	1	1	1
1	1	1	1	0	1	1	1	1	1	1	1

$EN = \overline{EN1} \cdot \overline{EN2} \cdot EN3$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

NOTE:

TYPE	VDD
74HCT138 TYPE	+5V
74ACT138 TYPE	+4.5 to +5.5V
TC74AC138 TYPE TC74VHC138	+2 to +5.5V
OTHER TYPES	+2 to +6V

SN74HC153APW-E05 (TI)FLAT PACKAGE

C-MOS DUAL 4-LINE-TO-1-LINE DATA SELECTOR/MULTIPLEXER
-TOP VIEW-

INHx IN	1	VDD	16
B IN	2		15	INHy IN
X3 IN	3		14	A IN
X2 IN	4		13	Y3 IN
X1 IN	5		12	Y2 IN
X0 IN	6		11	Y1 IN
XC OUT	7		10	Y0 IN
	8	GND	9	YC OUT
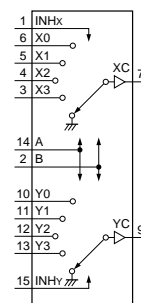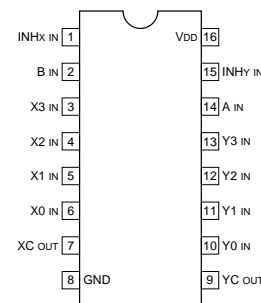
NOTE:

TYPE	VDD
ACT/HCT/FCT	+5V
40H	+2 to +8V
TC74AC/TC74VHC	+2 to +5.5V
OTHER TYPES	+2 to +6V

CONTROL IN			ON
INH	B	A	CHANNEL
0	0	0	0
0	0	1	1
0	1	0	2
0	1	1	3
1	X	X	GND

0 : LOW LEVEL
1 : HIGH LEVEL
X : DON'T CARE

SN74HC139APW-E05 (TI)FLAT PACKAGE

C-MOS DUAL 2-TO-4 DECODER/DEMULTIPLEXER
- TOP VIEW -

$\overline{1EN}$ IN	1	VDD	16
1A IN	2		15	$\overline{2EN}$ IN
1B IN	3		14	2A IN
$\overline{1Y0}$ OUT	4		13	2B IN
$\overline{1Y1}$ OUT	5		12	$\overline{2Y0}$ OUT
$\overline{1Y2}$ OUT	6		11	$\overline{2Y1}$ OUT
$\overline{1Y3}$ OUT	7		10	$\overline{2Y2}$ OUT
	8	GND	9	$\overline{2Y3}$ OUT
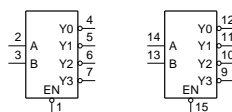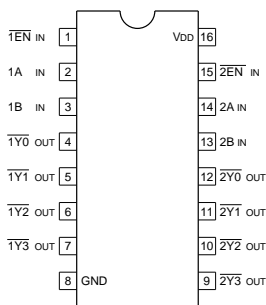
INPUTS			OUTPUTS			
EN	B	A	Y3	Y2	Y1	Y0
0	0	0	1	1	1	0
0	0	1	1	1	0	1
0	1	0	1	0	1	1
0	1	1	0	1	1	1
1	X	X	1	1	1	1

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

NOTE :

TYPE	VDD
TC74AC/TC74VHC	+2 to +5.5V
HCT/ACT	+5V
OTHER TYPES	+2 to +6V

SN74HC245ANS (TI)FLAT PACKAGE
SN74HC245ANS-E05

C-MOS BILATERAL BUS TRANSCEIVERS WITH 3-STATE OUTPUTS
-TOP VIEW-

DIR IN	1	VDD	20
A1	2		19	$\overline{EN}$ IN
A2	3		18	B1
A3	4		17	B2
A4	5		16	B3
A5	6		15	B4
A6	7		14	B5
A7	8		13	B6
A8	9		12	B7
	10	GND	11	B8

$\overline{EN}$	DIR	OPERATION
0	0	B to A
0	1	A to B
1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

NOTE:

TYPE	VDD
74HC	+2 to +6V
74ABT 74ACT 74BCT 74HCT	+4.5 to +5.5V
74AC 74VHC	+2 to +5.5V
74LCX	+2 to +3.6V
74LVT	+2.7 to +3.6V

SN74HC541ANS (TI)FLAT PACKAGE
SN74HC541ANS-E05

C-MOS BUFFERS AND LINE DRIVERS WITH 3-STATE OUTPUTS
- TOP VIEW -

G1	G2	A	Y
0	0	0	1
0	0	1	0
1	X	X	HI-Z
X	1	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE

NOTE :

TYPE	VDD
TC74AC/TC74VHC	+2 to +5.5V
ABT/ACT/BCT/HCT/VHCT	+5V
OTHER TYPES	+2 to +6V
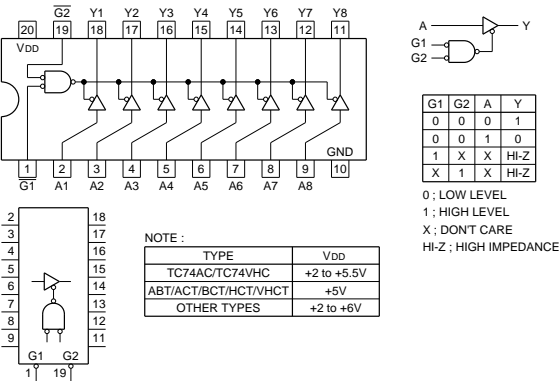
SN74HC74ANS (TI)FLAT PACKAGE
SN74HC74ANS-E05

C-MOS DUAL D-TYPE FLIP-FLOPS WITH DIRECT SET/RESET
-TOP VIEW-

INPUTS				OUTPUTS	
$\overline{SD}$	$\overline{RD}$	CK	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1	1
1	1	⌐	1	1	0
1	1	⌐	0	0	1
1	1	0	X	Qn	$\overline{Qn}$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

NOTE:

TYPE	VDD
74HCT/74ACT	+4.5 to +5.5V
74LVC	+2.7 to +3.6V
74AC/74VHC	+2 to +5.5V
OTHERS	+2 to +6V
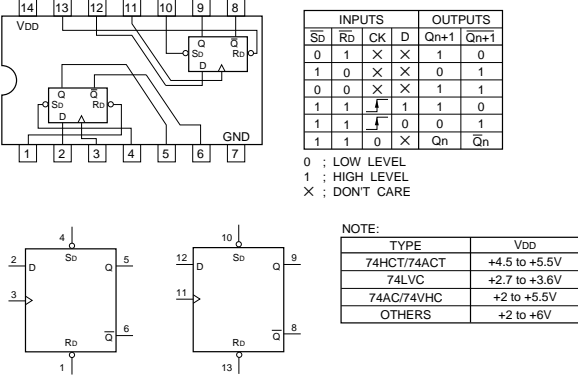
SN74HC574APW-E05
SN74HC574APW-E20 (TI)
TC74HC574AF (TOSHIBA)FLAT PACKAGE
TC74HC574AF(EL)

C-MOS 3-STATE D-TYPE EDGE-TRIGGERED FLIP-FLOP
-TOP VIEW-

EACH FLIP-FLOP

INPUTS			OUT
EN	CK	D	Q
0	⌐	1	1
0	⌐	0	0
0	⌐	X	Q0
1	X	X	HI-Z

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE
HI-Z ; HIGH IMPEDANCE
Q0 ; NO CHANGE

NOTE;

TYPE	VDD
74HC	+2 to +6V
74AC/74VHC	+2 to +5.5V
74ACT/74FCT/74HCT	+4.5 to +5.5V
74LCX	+2 to 3.6V
74LVC	+2.7 to 3.6V
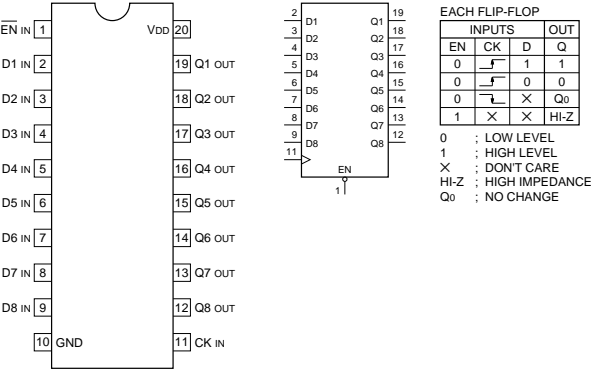
TC74HC123AF (TOSHIBA)FLAT PACKAGE
TC74HC123AF(EL)

C-MOS DUAL RETRIGGERABLE MONOSTABLE MULTIVIBRATORS
-TOP VIEW-

INPUTS			OUTPUTS	
RD	A	B	Q	$\overline{Q}$
0	X	X	0	1
1	1	X	0	1
1	X	0	0	1
1	0	⌐	⌐⌐	⌐⌐
1	⌐	1	⌐⌐	⌐⌐
⌐	0	1	⌐⌐	⌐⌐

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

OUTPUT PULSE WIDTH = 0.46 CR

NOTE :

TYPE	VDD
TC74HC123AF	+5V
TC74VHC	+2V to +5.5V
OTHER TYPES	+2V to +6V
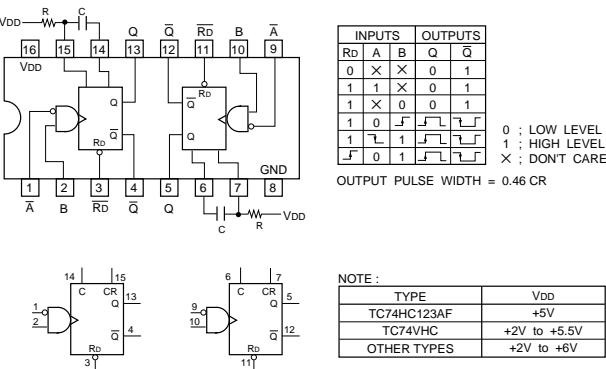
TC7S14F(TE85R)
TC7S14F-TE85L (TOSHIBA)CHIP PACKAGE

C-MOS SCHMITT INVERTER
-TOP VIEW-

Y=$\overline{A}$

A	Y
0	1
1	0

0 ; LOW LEVEL
1 ; HIGH LEVEL

TC7W74F (TOSHIBA)CHIP PACKAGE
TC7W74F(TE12R)

C-MOS D-TYPE FLIP-FLOPS WITH DIRECT SET / RESET
—TOP VIEW—

(SCALE 3/1)
—TOP VIEW—

V_{DD} (+2 to +6V)

GND

INPUTS				OUTPUTS	
$\overline{S}_D$	$\overline{R}_D$	CK	D	Qn+1	$\overline{Qn+1}$
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	1	1
1	1	⌐	1	1	0
1	1	⌐	0	0	1
1	1	⌐	X	Qn	$\overline{Qn}$

0 ; LOW LEVEL
1 ; HIGH LEVEL
X ; DON'T CARE

TL712CPS (TI)FLAT PACKAGE
TL712CPS-E05

HIGH SPEED COMPARATOR (TTL OUTPUT)
-TOP VIEW-

1 NC
IN+ 2
IN− 3
OE 4
V_{CC} (0 to +5V) 8
7 OUT+
6 OUT−
GND 5
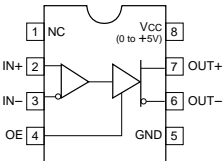
TL7705CPS-B (TI)FLAT PACKAGE

POWER VOLTAGE SUPERVISOR
—TOP VIEW—
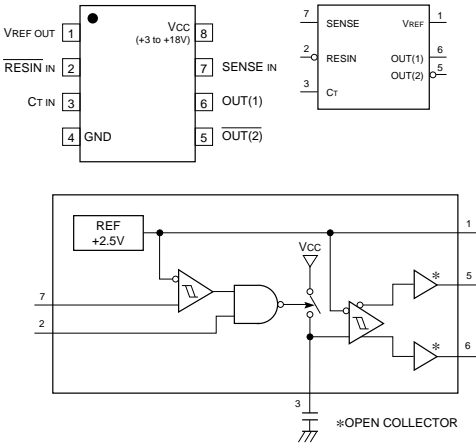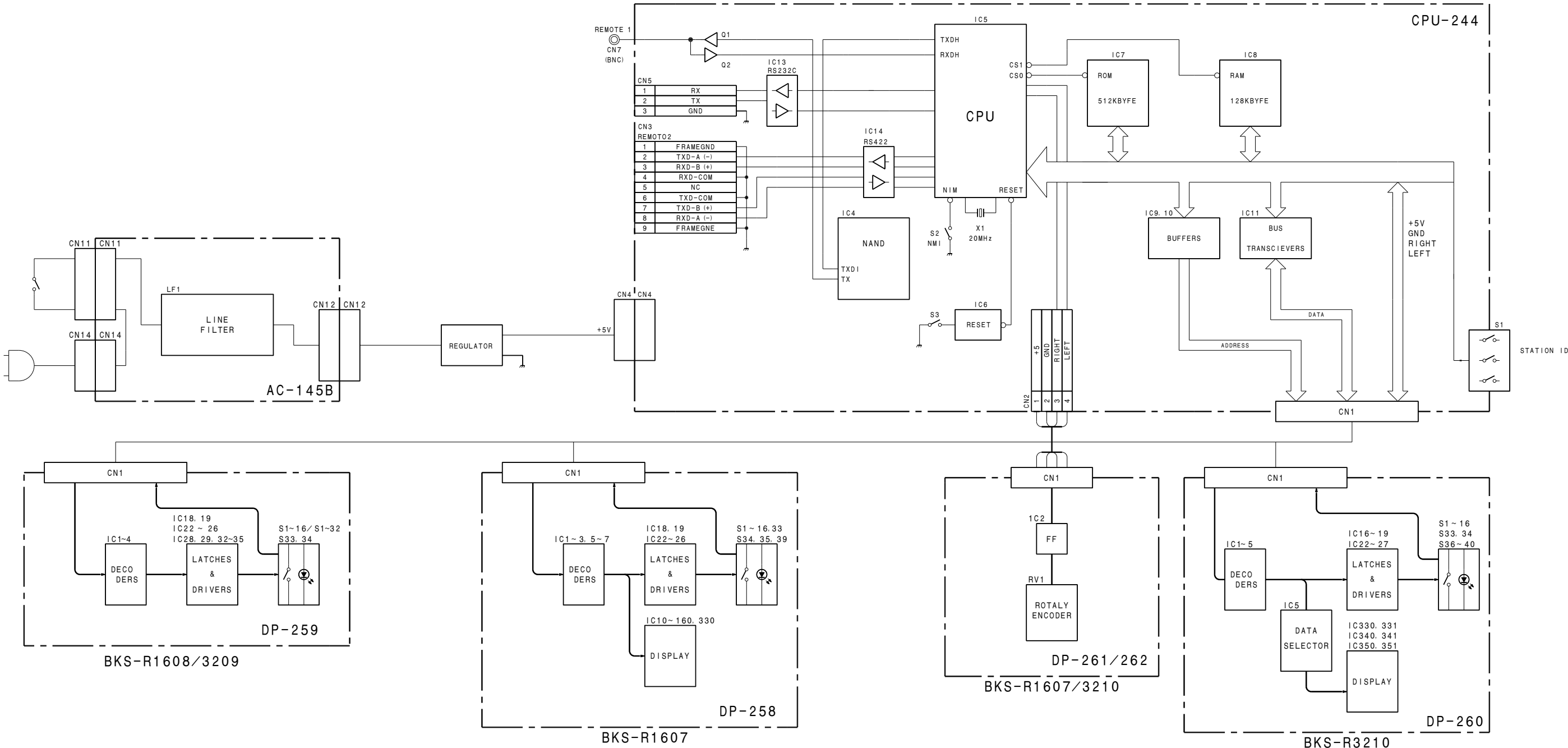
V_{REF OUT} 1
$\overline{RESIN}$ IN 2
C_{T IN} 3
4 GND
V_{CC} (+3 to +18V) 8
7 SENSE IN
6 OUT(1)
5 $\overline{OUT(2)}$

SENSE
RESIN
C_T
V_{REF}
OUT(1)
OUT(2)

REF +2.5V

V_{CC}

∗OPEN COLLECTOR

Section 5
Block Diagram

Section 6
Schematic Diagrams

1

2

3

4

5

BKS-R1607/R1608
BKS-R3209/R3210

6-1   6-1

A   B   C   D   E   F   G   H

BKS-R1607 (SY) : S/N 10001 and Higher
BKS-R1608 (SY) : S/N 10001 and Higher
BKS-R3209 (SY) : S/N 10001 and Higher
BKS-R3210 (SY) : S/N 10001 and Higher

1

2

3

4

5

RXD
TXD
OE

5V-2 FB1 5V
C25 C26 C27 C28
47 0.1 47 0.1
16V 16V

+5V
TP1

CN4
CN4 (4/4) 4 +5V
CN4 (3/4) 3 +5V
CN4 (2/4) 2 G2
CN4 (1/4) 1 G1

L1 10µH 5V
C2 C3 C6 C7
0.1 47 0.1 47
16V 16V
GND

E1 E2 E3

TP4

5V C11
IC2 (1/3) 0.1
TC74HC123AF
C10 R13 5V
0.1 150k
IC4 (1/3)
SN74HC10ANS

5V
R14 47k
R51 47k
Q3 DTC124EK
C47 47 16V
R38 2.7k

5V
R18 3.3k

5V C24 0.1
IC6 TL7705CPS-B
CC V
OUT
SENC
D1 RES
GND
R19 3.3k
RESET S3

5V
C18 5V-2
C17 C19
10p 10p
X1 20MHz
R46 100
R72 R73 R75 R76 R77
100 100 100 100 100
C20 C21
16V 0.1

CN1
CN1 (21/30) 21 RIGHT
CN1 (22/30) 22 LEFT

C12 0.1
RB3 47k

5V
R44 47k
DTRH DCDH
DSR0 RTSH
DTR0 CTSH
P25 P34
V/SBUS OE
P23 RXD1
P22 TX01
P21 VDD
P20 GND
RTXCH

IC5
KL5C80A20CFP

CN2
CN2 (1/4) 1 +5V
CN2 (2/4) 2 GND
CN2 (3/4) 3 RIGHT
CN2 (4/4) 4 LEFT

5V C1 0.1

RB1 47k
TP5

C41 47 16V
R20 100
R9

IC2 (2/3)
TC74HC123AF
C49 100p
R10 4700
R11 5600
R12 22k

STATION ID

Q1 2SA812
R5 1200

5V
C9 470p

P17
P16
P15
P14
GND
P13
P12
P11
P10
RXDH

A0 50 A0
A1 49 A1
A2 47 A2
A3 46 A3 A9
A4 45 A4 A8
A5 43 A5 A7
A6 41 A6 A6
A7 40 A7 A5
A8 40 A8 A4
A9 39 A9 A3
A10 38 A10 A2
A11 36 A11 A1
A12 35 A12 A0
A13 33 A13
A14 32 A14
A15 31 A15
A16 71 A16
A17 70
A18 69
A19 68 A19

BNC FB2
CN7
R1 68
D1 1SS123
C48 2.2 16V
R52 680k
R53 1200

R3 10k
R4 470
R7 270k
R6 10k
R8 1k

Q2 2SA1226
R2 100k
C8 2200p

IC1 TL712CPS

TXDH
TXD0
VDD
TRXCH
PALAT
ERDY
ENWR
EIOWR
EIORD
MCS
NMI
P07
BFMOD
GND
GND
P05
P04
BFS1O
OUT3
OUT2
OUT1
OUT0
CLK
RISO
CISO
RX00
VDD
GND
TX00

RB2 47k
RB4 47k

5V-2
C13 0.1
R39 47k

TP3
IC4 (2/3)
SN74HC10ANS
WR

5V-2
C22 0.1

5V-2
R15 3.3k
R16 10k
C16 0.1

S2 N.M
NMI

R36 100
C39 5V 5V
IC12 TC7W74F
CLR Q
CK Q
PR
R70 100
5V

BKS-R1607/R1608
BKS-R3209/R3210

A   B   C   D   E   F   G   H

1

Q4 2SC2412K   Q5 2SC2412K
R56 4700   R59 4700   R57 10k   5V

IC14 DS8922M-T3

CN3   TXD-B (+)   7   CN3 (7/9)
CN3   TXD-A (-)   2   CN3 (2/9)

R62 330   R54 10k
R66 330   R68 330   R58 10k

5V
IC15 (1/2) TC7S04F
C50 0.1

CN3   FRAM GND   1   CN3 (1/9)
CN3   RXD-COM   4   CN3 (4/9)
CN3   NC   5   CN3 (5/9)
CN3   TXD-COM   6   CN3 (6/9)
CN3   FRAM GND   9   CN3 (9/9)

R69 330   R60 10k
CN3   RXD-A (-)   8   CN3 (8/9)

R55 10k   R63 330   R67 330
CN3   RXD-B (+)   3   CN3 (3/9)
R61 10k   5V   (EMC)

R64 4700   R65 4700
Q6 2SC2412K   Q7 2SC2412K

2

IC9 SN74HC541ANS   5V C33 0.1
CN1
A0   D0 Vcc GND Q0   R21 390   A0   6   CN1 (6/30)
A1   D1   Q1   R22 390   A1   7   CN1 (7/30)
A2   D2 A2 Q2   R23 390   A2   8   CN1 (8/30)
A3   D3   Q3   R24 390   A3   9   CN1 (9/30)
A4   D4   Q4   R25 390   A4   10   CN1 (10/30)
A5   D5   Q5   R26 390   A5   11   CN1 (11/30)
A6   D6   Q6   R27 390   A6   12   CN1 (12/30)
A10   D7   Q7   R28 390   A10   13   CN1 (13/30)
G1   G2

IC10 SN74HC541ANS   5V C34 0.1
CN1
A8   D0 Vcc GND Q0   R29 390   A8   14   CN1 (14/30)
A9   D1   Q1   R30 390   A9   15   CN1 (15/30)
RD   D2 A2 Q2   R31 390   RD   16   CN1 (16/30)
WR   D3   Q3   R32 390   WR   17   CN1 (17/30)
WR   D4   Q4   R33 390   WR   18   CN1 (18/30)
FL   D5   Q5   R34 390   FL   19   CN1 (19/30)
      D6   Q6   R35 390   A5   20   CN1 (20/30)
      D7   Q7
      G1   G2

3

A5   5V
IC8 CXK581000AM   IC4 (3/3) SN74HC10ANS

IC7 29EE512-CPU244   5V C29
C30 47 16V
C31 5V 0.1

IC11 SN74HC245ANS   5V C35 0.1
CN1
D0   D0 Vcc GND Q0   R40 390   D0   23   CN1 (23/30)
D1   D1   Q1   R41 390   D1   24   CN1 (24/30)
D2   D2 B2 Q2   R43 390   D2   25   CN1 (25/30)
D3   D3   Q3   R47 390   D3   26   CN1 (26/30)
D4   D4   Q4   R48 390   D4   27   CN1 (27/30)
D5   D5   Q5   R49 390   D5   28   CN1 (28/30)
D6   D6   Q6   R50 390   D6   29   CN1 (29/30)
D7   D7   Q7   390   D7   30   CN1 (30/30)
      DIR   G

RB6 1k
RB7 1k

4

IC13 MAX202CSE
C42 5V   C43
C1+ V+
C1- V-
C2+
C2-
T1IN T1OUT
T2IN T2OUT
R1OUT R1IN
R2OUT R2IN

5V FL1
C37 C38 47 16V

CN1
+5V   4   CN1 (4/30)
+5V   5   CN1 (5/30)
GND   1   CN1 (1/30)
GND   2   CN1 (2/30)
GND   3   CN1 (3/30)

ILG 3P   CN5
RX   3   CN5 (3/3)
TX   2   CN5 (2/3)
GND   1   CN5 (1/3)

C44 C45 C46

R80 100   R81 100   R82 100   R83 100   R84 100   R85 100   R86 100   R87 100

5V R37 47k

CN6
BFSIO   1   CN6 (1/4) NM
CLK   2   CN6 (2/4) NM
+5V   3   CN6 (3/4) NM
GND   4   CN6 (4/4) NM

C40 0.1

5

5V C51 0.1   5V C32 0.1

IC15 (2/2) TC7S04F   IC2 (3/3) TC74HC123AF

CPU-244
BOARD NO. 1-665-757-11
LOT NO. 612-
B-¥BKSR1607-CPU244CA-11

BKS-R1607/R1608
BKS-R3209/R3210

6-3   6-3

I   J   K   L   M   N   O   P

BKS-R1607 (SY) : S/N 10001 and Higher
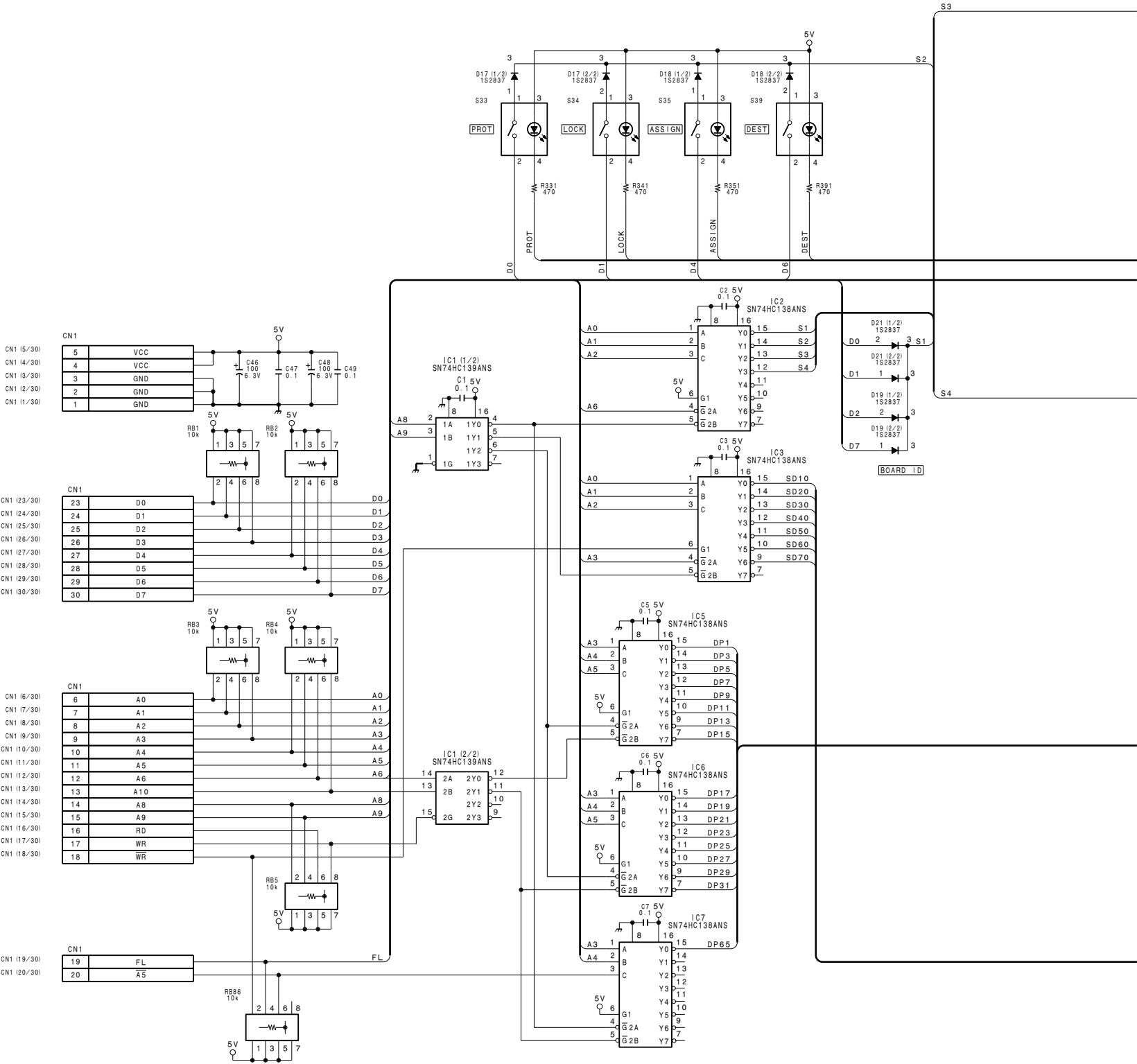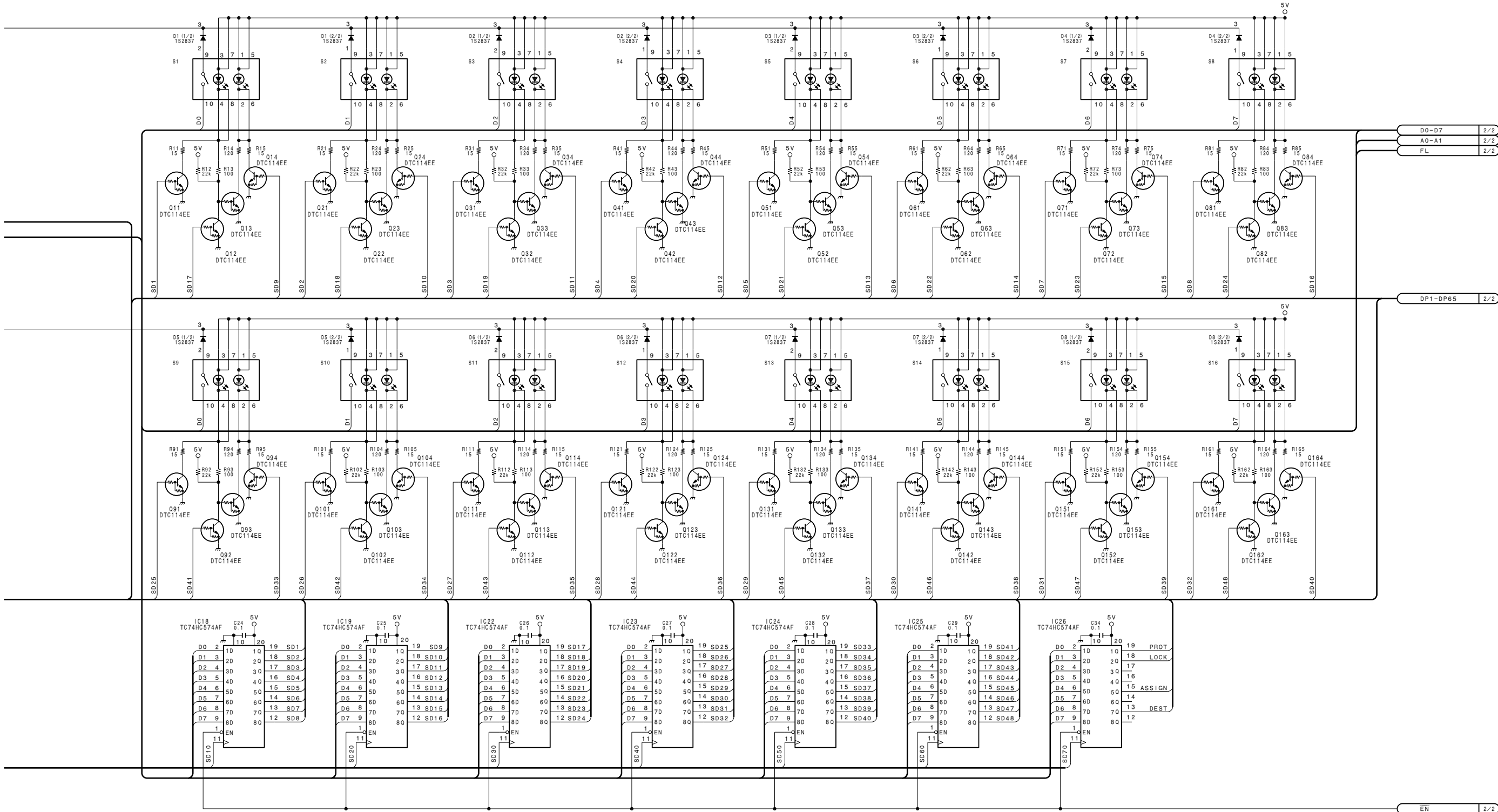
DP-258 (1/2)
BOARD NO. 1-665-758-11
LOT NO. 612-
B-¥ BKSR1607-DP258CA-02

BKS-R1607/R1608
BKS-R3209/R3210

I   J   K   L   M   N   O   P

1

2

3

4
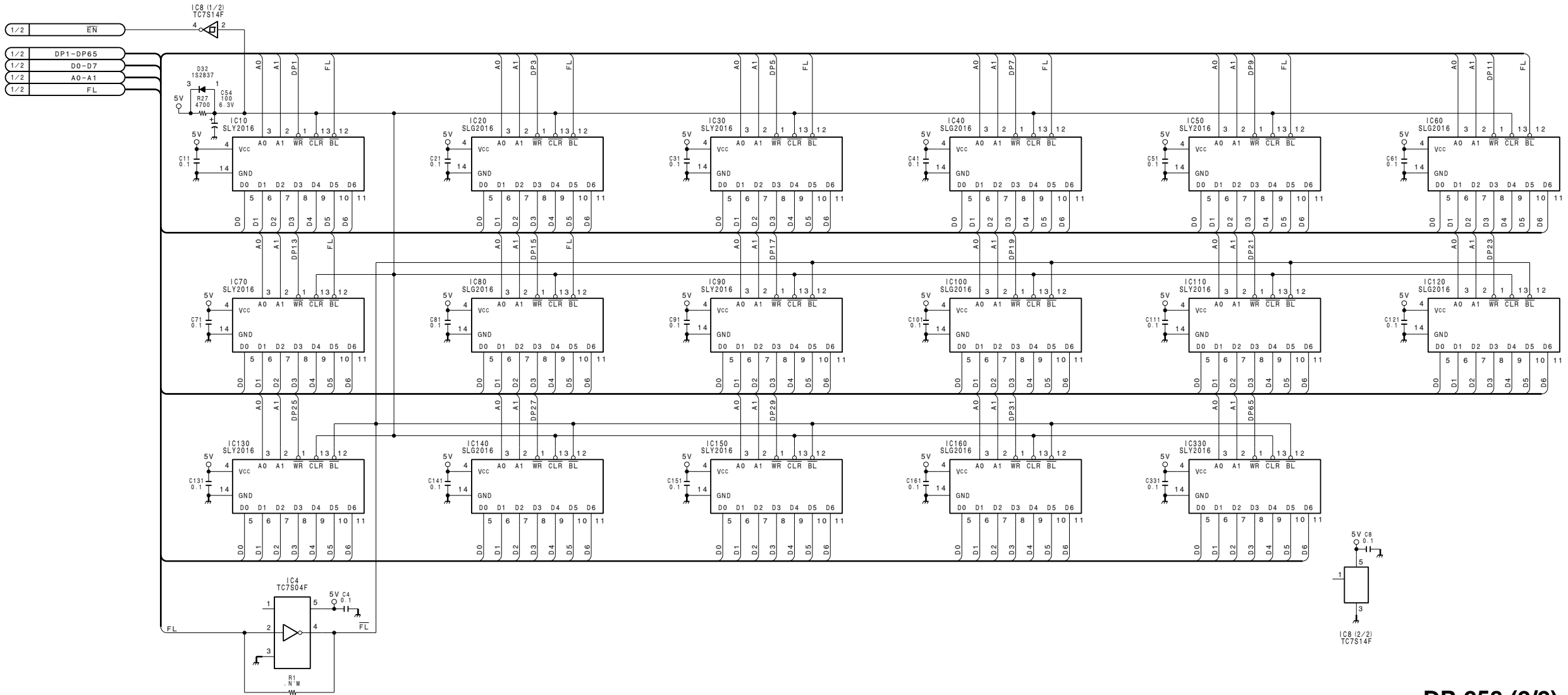
DP-258 (2/2)
BOARD NO. 1-665-758-11
LOT NO. 612-
B-¥ BKSR1607-DP258CA-02

5

| A | B | C | D | E | F | G | H |

BKS-R1608 (SY) : S/N 10001 and Higher
BKS-R3209 (SY) : S/N 10001 and Higher

BKS-R1607/R1608
BKS-R3209/R3210

1

2

3

4

5

DP-259
BOARD NO. 1-665-760-11
LOT NO. 612-
B-¥ BKSR1608-DP259CA-01

BKS-R1607/R1608
BKS-R3209/R3210

I   J   K   L   M   N   O   P

BKS-R3210 (SY) : S/N 10001 and Higher

BKS-R1607/R1608
BKS-R3209/R3210

BKS-R1607/R1608
BKS-R3209/R3210

1

2

3
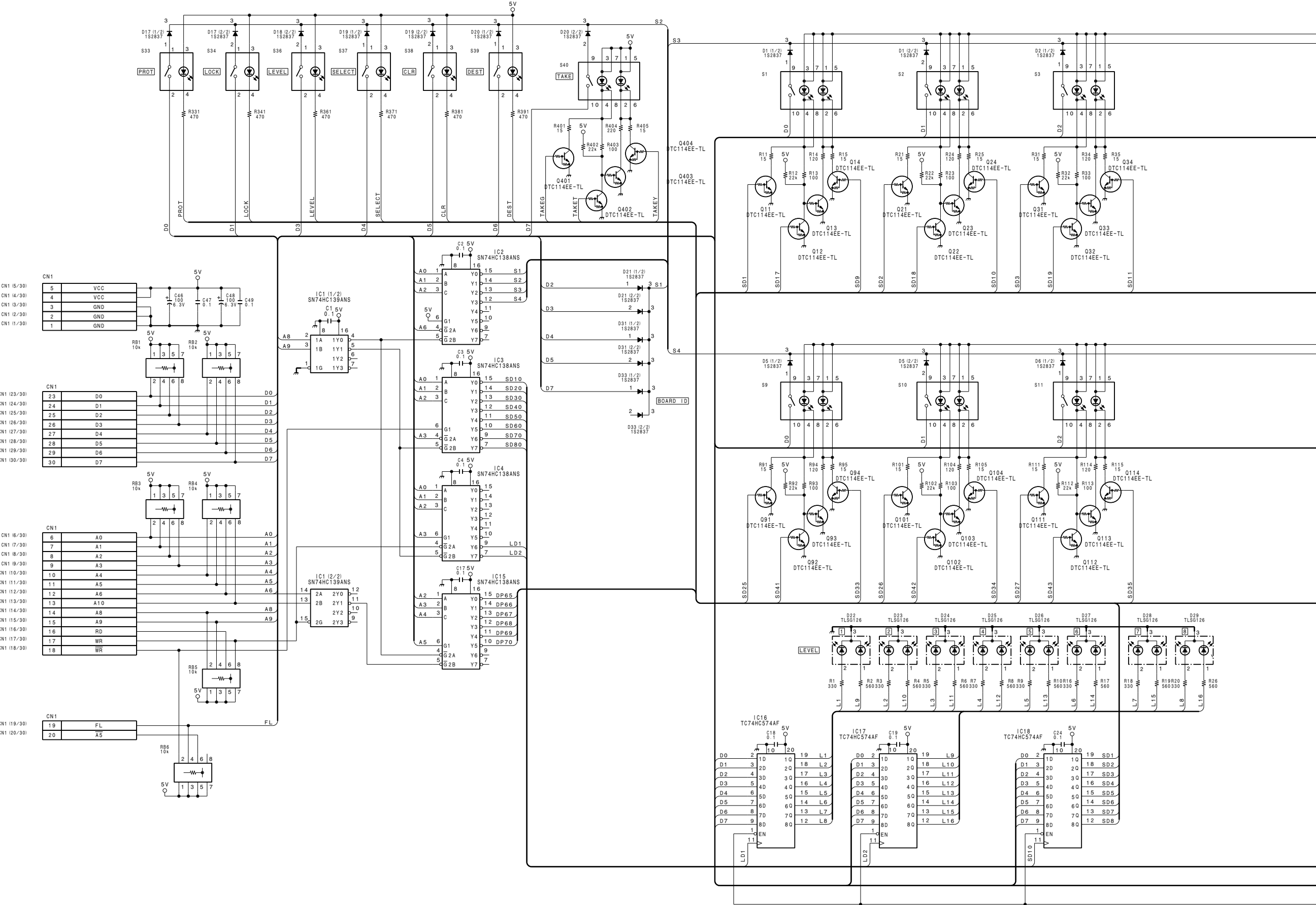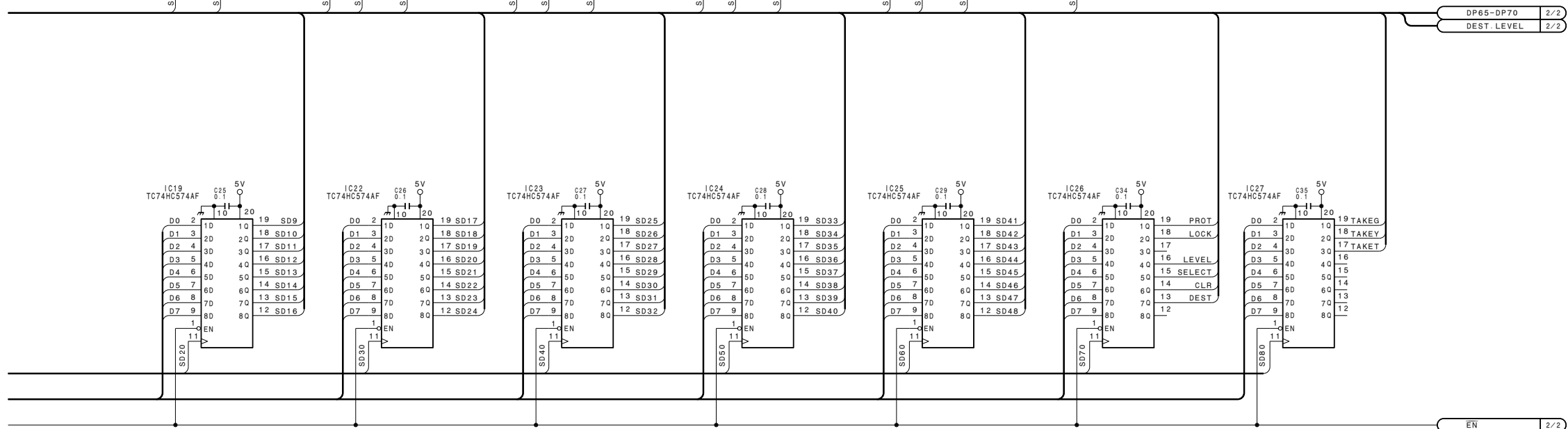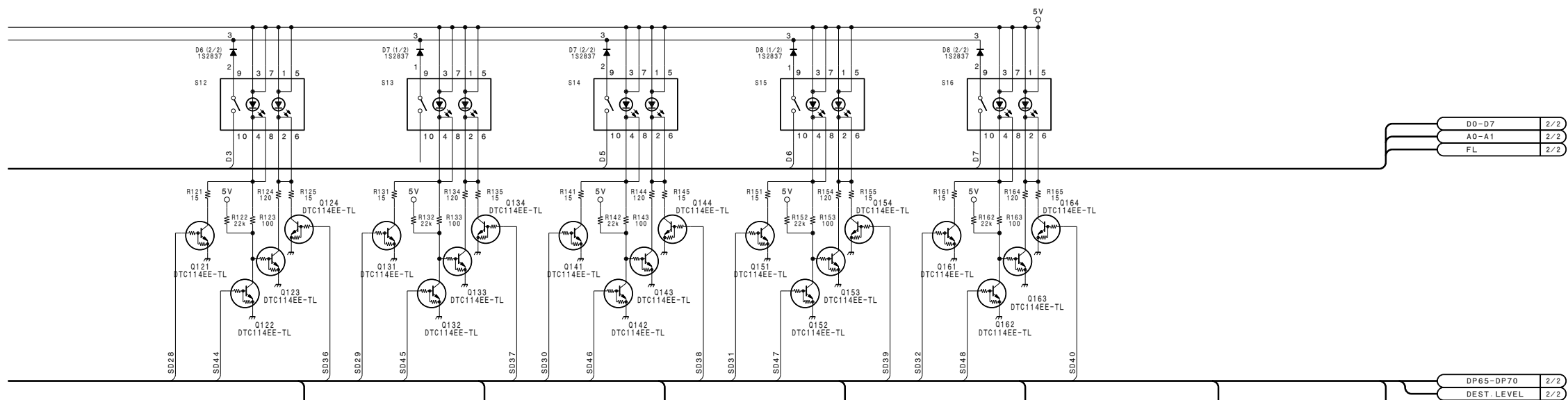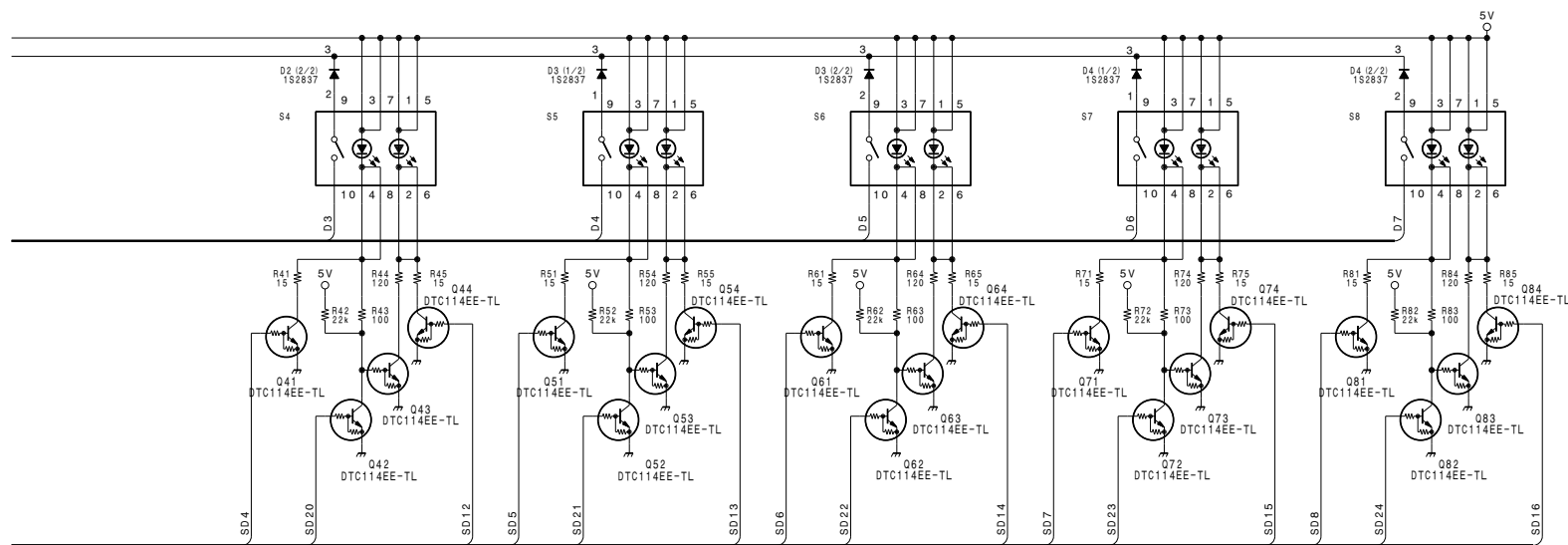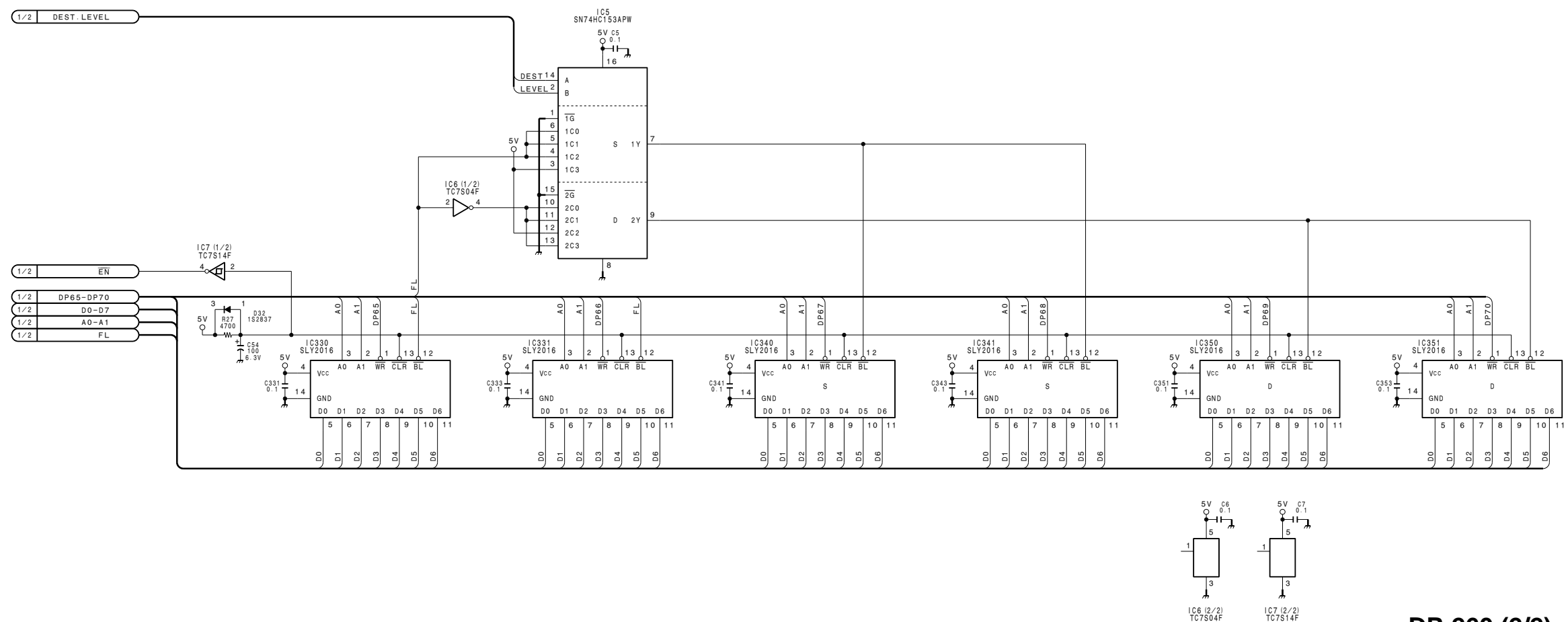
DP-260 (2/2)
BOARD NO. 1-665-768-11
LOT NO. 612-
B-¥ BKSR3210-DP260CA-01

4

5

BKS-R1607/R1608

BKS-R3209/R3210

A   B   C   D   E   F   G   H

BKS-R1607

DP-258

CN1

GND	1
GND	2
GND	3
+5V	4
+5V	5
A0	6
A1	7
A2	8
A3	9
A4	10
A5	11
A6	12
A7	13
A8	14
A9	15
RD	16
WR	17
WR	18
FL	19
A5	20
RIGHT	21
LEFT	22
D0	23
D1	24
D2	25
D3	26
D4	27
D5	28
D6	29
D7	30

BKS-R1608/3209

DP-259

CN1

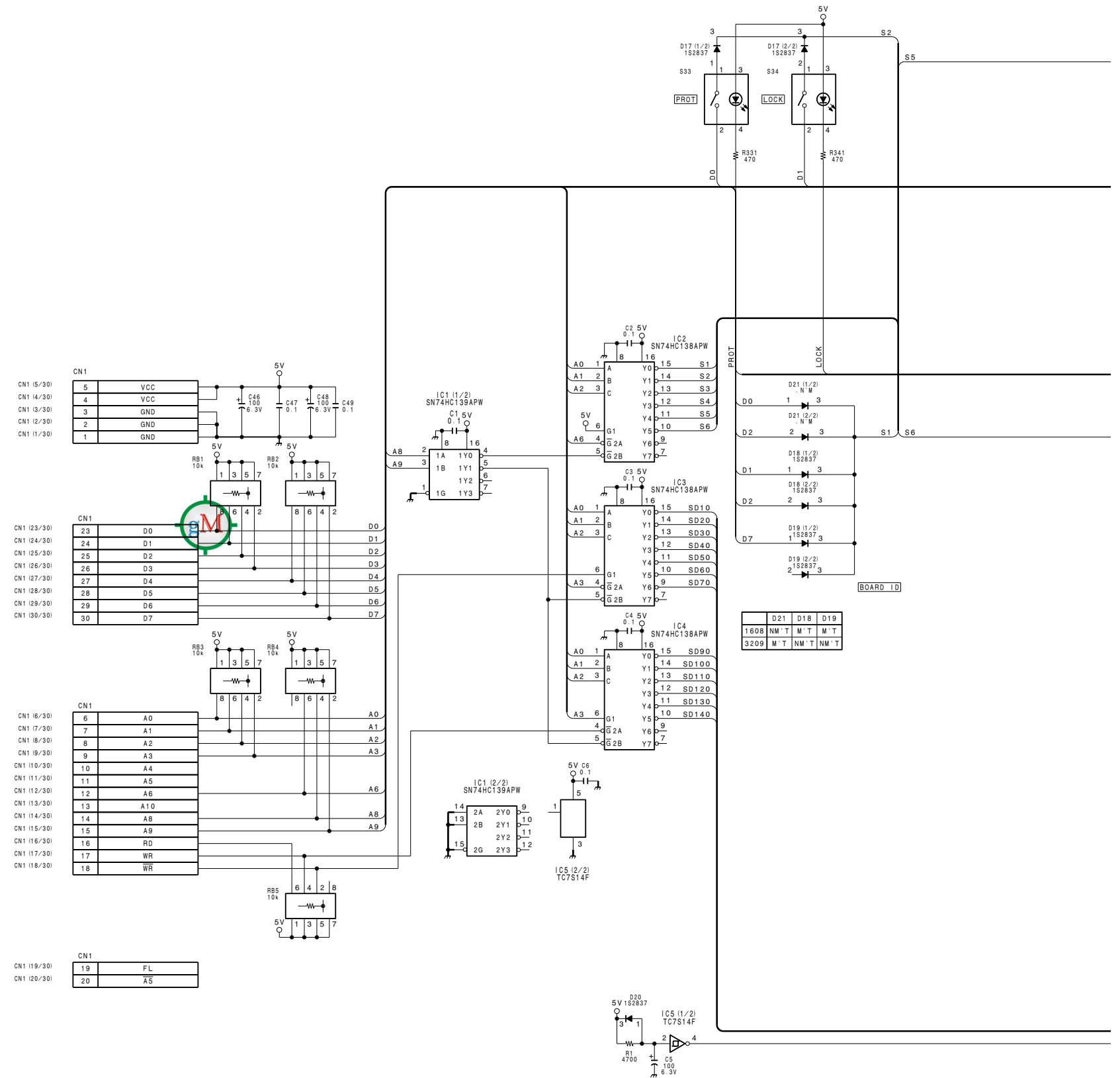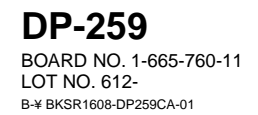|	
GND	1
GND	2
GND	3
+5V	4
+5V	5
A0	6
A1	7
A2	8
A3	9
A4	10
A5	11
A6	12
A7	13
A8	14
A9	15
RD	16
WR	17
WR	18
FL	19
A5	20
RIGHT	21
LEFT	22
D0	23
D1	24
D2	25
D3	26
D4	27
D5	28
D6	29
D7	30

DP-260

CN1

GND	1
GND	2
GND	3
+5V	4
+5V	5
A0	6
A1	7
A2	8
A3	9
A4	10
A5	11
A6	12
A7	13
A8	14
A9	15
RD	16
WR	17
WR	18
FL	19
A5	20
RIGHT	21
LEFT	22
D0	23
D1	24
D2	25
D3	26
D4	27
D5	28
D6	29
D7	30

BKS-R3210

CPU-244

CN1

1	GND
2	GND
3	GND
4	+5V
5	+5V
6	A0
7	A1
8	A2
9	A3
10	A4
11	A5
12	A6
13	A7
14	A8
15	A9
16	RD
17	WR
18	WR
19	FL
20	A5
21	RIGHT
22	LEFT
23	D0
24	D1
25	D2
26	D3
27	D4
28	D5
29	D6
30	D7

CN3

1	FRAMEGND	
2	TXD-A (-)	
3	RXD-B (+)	
4	RXD-COM	
5	NC	RS-422
6	TXD-COM	
7	TXD-B (+)	
8	RXD-A (-)	
9	FRAME-GND	

REMOTE 2
(D-SUB)

REMOTE 1 (BNC)

CN7

1	S BUS (X)	S-BUS
2	S BUS (G)	

DP-261/262

CN2

+5V	1	
GND	2	
RIGHT	3	
LEFT	4	

BKS-R1607/3210

CN2

1	+5V	
2	GND	
3	RIGHT	
4	LEFT	

CN5

1	RX	
2	TX	RS-232C
3	GND	

CN6

1	BFSIO
2	CLK
3	+5V
4	GND

CN4

1	GND
2	GND
3	+5V
4	+5V

AC SWITCH
S901

CN11

1	AC IN (L)
2	AC SW OUT (L)
3	AC SW OUT (N)
4	AC IN (N)

CN14

1	AC INLET (N)
2	AC INLET (L)

CN901
AC INLET

C1 0.22 250V
R1 1M
C2 0.0022 250V
C3 0.0022 400V
LF1
C4 0.0022 400V

CN12

AC OUT (N)	1
GND	2
AC OUT (L)	3

CN101

1	INPUT (N)
2	N.C.
3	INPUT (L)
4	N.C.
5	F.G.

CN100

GND	1
GND	2
+5V	3
+5V	4

SWITCHING REGULATOR

AC-145B

FRAME

BKS-R1607/R1608

BKS-R3209/R3210

C-¥BKSR1607-FRAME

BKS-R1607/R1608
BKS-R3209/R3210

6-13   6-13

A | B | C | D | E | F | G | H

Section 7
Board Layouts

Index

AC-145B -A SIDE-
1-646-862-11

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CPU-244
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*:B SIDE
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|					
A6	A1	L1	A2	R77	C1
				R78	C1
C1	A1	Q1	B2	R79	C1
C2	A2	Q2	B2	R80	E2
C3	A2	Q3	B1	R81	E2
C4	A2	Q4	B2	R82	E2
C6	A2	Q5	B2	R83	E2
C7	A2	Q6	B2	R84	E2
C8	B2	Q7	B2	R85	E2
C9	B1			R86	E2
C10	B1	R1	B2	R87	E2
C11	B1	R2	B2		
C12	C1	R3	B2	RB1	B1
C13	C2	R4	B2	RB2	C2
C14	C2	R5	A2	RB3	C1
C15	C1	R6	B2	RB4	C2
C16	C2	R7	B2	RB6	D2
C17	C1	R8	B2	RB7	D2
C18	C1	R9	C1		
C19	C1	R10	B1	S1	D2
C20	A1	R11	B1	S2	C2
C21	A1	R12	B1	S3	A2
C22	C2	R13	B1		
C23	C1	R14	B1	TP1	A2
C24	A1	R15	C2	TP2	B2
C25	B1	R16	C2	TP3	C2
C26	B1	R17	C2	TP4	B2
C27	B2	R18	A1	TP5	B1
C28	B1	R19	A1		
C29	D2	R20	B1	X1	C1
C30	D2	R21	E1		
C31	E2	R22	E1		
C32	B1	R23	E1		
C33	E1	R24	E1		
C34	D1	R25	E1		
C35	D1	R26	E1		
C37	E1	R27	E1		
C38	E1	R28	E1		
C39	D1	R29	E1		
C40	D1	R30	E1		
C41	B1	R31	E1		
C42	D1	R32	E1		
C43	D1	R33	D1		
C44	D1	R34	D1		
C45	D1	R35	D1		
C46	D1	R36	D1		
C47	B1	R37	D1		
C48	A2	R38	B1		
C49	B1	R39	C2		
C50	B2	R40	D1		
C51	B2	R41	D1		
		R42	D1		
CN1	E1	R43	D1		
CN2	A1	R44	C1		
CN3	C2	R45	C1		
CN4	A2	R46	C1		
CN5	C1	R47	D1		
CN6	D1	R48	D1		
CN7	A2	R49	D1		
CN8	*A2	R50	D1		
		R51	B1		
D1	B2	R52	B2		
		R53	B2		
E1	E2	R54	B2		
E2	C1	R55	B2		
E3	A1	R56	B2		
		R57	B2		
FB1	B1	R58	B2		
FB2	B2	R59	B2		
		R60	B2		
FL1	E1	R61	B2		
		R62	B2		
IC1	B2	R63	B2		
IC2	B1	R64	B2		
IC4	B1	R65	B2		
IC5	C1	R66	B2		
IC6	A1	R67	B2		
IC7	D2	R68	B2		
IC8	E2	R69	B2		
IC9	E1	R70	D1		
IC10	D1	R71	C2		
IC11	D2	R72	C1		
IC12	D1	R73	C1		
IC13	D1	R74	C1		
IC14	B2	R75	C1		
IC15	B2	R76	C1		
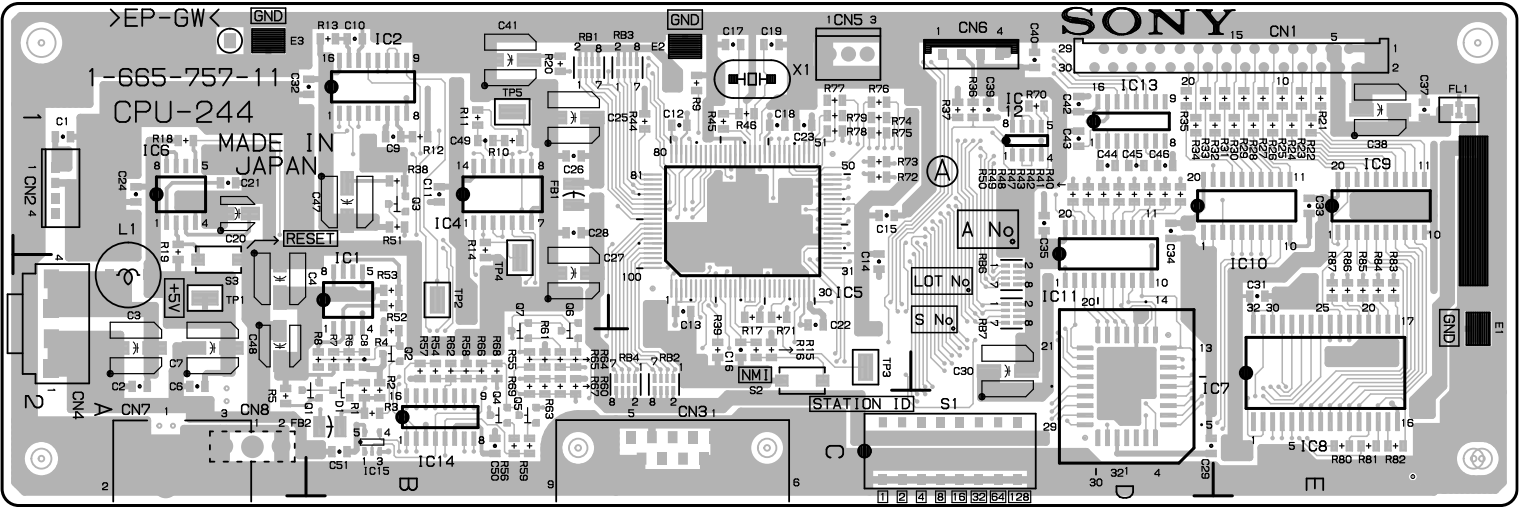
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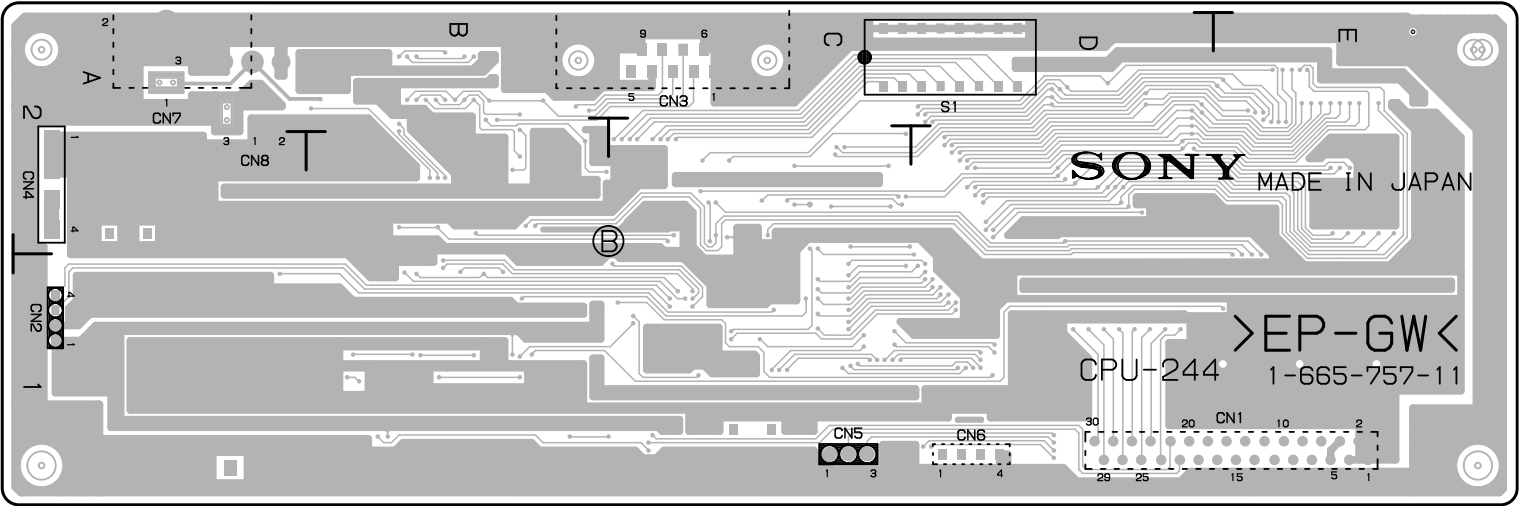
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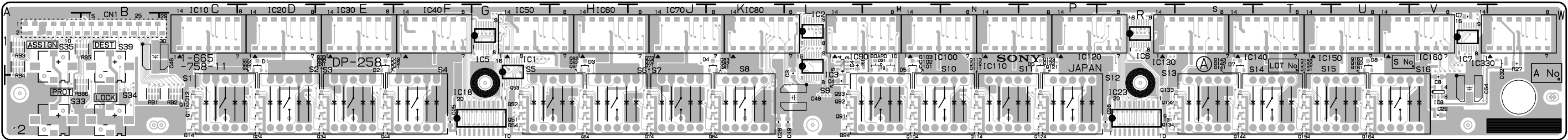
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BKS-R1607
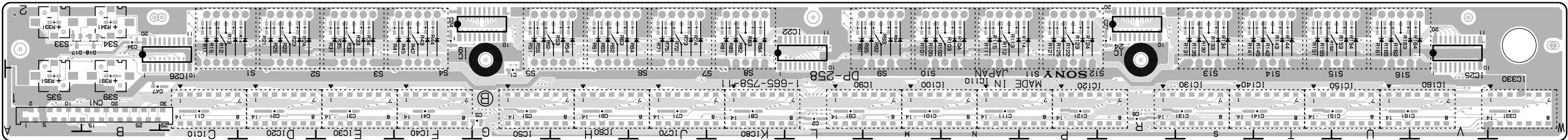
**DP-258** -B SIDE-
1-665-758-11
BKS-R1607

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DP-258
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*:B SIDE
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C1	* G1	D1	D1	IC110	N1	Q84	K2	R15	* C2	R93	* M2	R341	* B2
C2	* L1	D2	E1	IC120	P1	Q91	L2	R21	* D2	R94	* M2	R351	* A1
C3	L1	D3	H1	IC130	R1	Q92	L2	R22	* D2	R95	* M2	R391	* B1
C4	L2	D4	K1	IC140	S1	Q93	L2	R23	* D2	R101	* M2		
C5	* G1	D5	M1	IC150	T1	Q94	L2	R24	* D2	R102	* M2	RB1	B2
C6	* R1	D6	P1	IC160	U1	Q101	M2	R25	* D2	R103	* N2	RB2	C2
C7	V1	D7	S1	IC330	W1	Q102	M2	R27	W1	R104	* N2	RB3	A1
C8	V2	D8	U1			Q103	M2	R31	* E2	R105	* M2	RB4	A1
C11	* C1	D17	* A2	Q11	C2	Q104	M2	R32	* E2	R111	* N2	RB5	B1
C21	* D1	D18	* B2	Q12	C2	Q111	N2	R33	* E2	R112	* N2	RB86	B2
C24	* F2	D19	M1	Q13	C2	Q112	N2	R34	* E2	R113	* N2		
C25	F2	D21	M1	Q14	C2	Q113	N2	R35	* E2	R114	* P2	S1	C2
C26	K2	D32	W1	Q21	D2	Q114	N2	R41	* F2	R115	* N2	S2	D2
C27	* R2			Q22	D2	Q121	P2	R42	* F2	R121	* P2	S3	E2
C28	R2	IC1	G2	Q23	D2	Q122	P2	R43	* F2	R122	* P2	S4	F2
C29	V2	IC2	L1	Q24	D2	Q123	P2	R44	* F2	R123	* P2	S5	H2
C31	* E1	IC3	L2	Q31	E2	Q124	P2	R45	* F2	R124	* P2	S6	H2
C34	* B2	IC4	L1	Q32	E2	Q131	S2	R51	* G2	R125	* P2	S7	J2
C41	* F1	IC5	G1	Q33	E2	Q132	S2	R52	* G2	R131	* S2	S8	K2
C46	B1	IC6	R1	Q34	E2	Q133	S2	R53	* H2	R132	* S2	S9	M2
C47	* B1	IC7	V1	Q41	E2	Q134	S2	R54	* H2	R133	* S2	S10	N2
C48	L2	IC8	V2	Q42	E2	Q141	S2	R55	* G2	R134	* S2	S11	N2
C49	L2	IC10	C1	Q43	E2	Q142	S2	R61	* H2	R135	* S2	S12	P2
C51	* G1	IC18	F2	Q44	E2	Q143	S2	R62	* H2	R141	* S2	S13	S2
C54	V2	IC19	* F2	Q51	G2	Q144	S2	R63	* H2	R142	* T2	S14	T2
C61	* H1	IC20	D1	Q52	G2	Q151	T2	R64	* J2	R143	* T2	S15	U2
C71	* J1	IC22	* K2	Q53	G2	Q152	T2	R65	* H2	R144	* T2	S16	U2
C81	* K1	IC23	R2	Q54	G2	Q153	T2	R71	* J2	R145	* T2	S33	A2
C91	* L1	IC24	* R2	Q61	H2	Q154	T2	R72	* J2	R151	* T2	S34	B2
C101	* M1	IC25	* V2	Q62	H2	Q161	U2	R73	* J2	R152	* T2	S35	A1
C111	* N1	IC26	* B1	Q63	H2	Q162	U2	R74	* J2	R153	* U2	S39	B1
C121	* P1	IC30	E1	Q64	H2	Q163	U2	R75	* J2	R154	* U2		
C131	* S1	IC40	F1	Q71	J2	Q164	U2	R81	* K2	R155	* T2		
C141	* T1	IC50	G1	Q72	J2			R82	* K2	R161	* U2		
C151	* U1	IC60	H1	Q73	J2	R1	L1	R83	* K2	R162	* U2		
C161	* U1	IC70	J1	Q74	J2	R11	* C2	R84	* K2	R163	* U2		
C331	* W1	IC80	K1	Q81	K2	R12	* C2	R85	* K2	R164	* V2		
		IC90	L1	Q82	K2	R13	* C2	R91	* L2	R165	* U2		
CN1	* B1	IC100	M1	Q83	K2	R14	* D2	R92	* M2	R331	* A2		
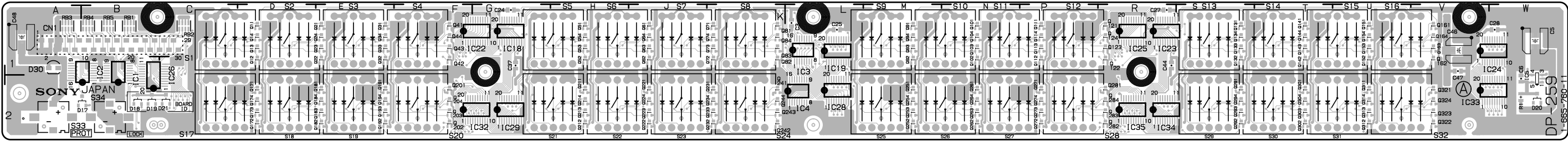
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BKS-R1608/R3209
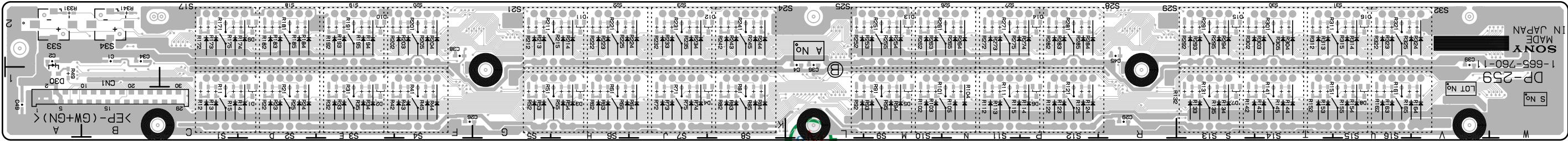
DP-259 -B SIDE-
1-665-760-11
BKS-R1608/R3209

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DP-259
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*:B SIDE
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C1	*B2	D16	*U2	Q43	F1	Q144	T1	Q251	M2	R23	*D1	R103	*M1	R184	*D2	R265	*N2	S2	D1
C2	*A2	D17	B2	Q44	F1	Q151	U1	Q252	M2	R24	*D1	R104	*N1	R185	*D2	R271	*N2	S3	E1
C3	L1	D18	B2	Q51	H1	Q152	U1	Q253	M2	R25	*D1	R105	*N1	R191	*E2	R272	*N2	S4	F1
C4	*L2	D19	B2	Q52	H1	Q153	U1	Q254	M2	R31	*E1	R111	*N1	R192	*E2	R273	*N2	S5	H1
C5	W1	D20	W2	Q53	H1	Q154	U1	Q261	N2	R32	*E1	R112	*N1	R193	*E2	R274	*P2	S6	H1
C6	W2	D21	C2	Q54	H1	Q161	V1	Q262	N2	R33	*E1	R113	*N1	R194	*E2	R275	*P2	S7	J1
C24	G1	D30	A1	Q61	J1	Q162	V1	Q263	N2	R34	*E1	R114	*P1	R195	*E2	R281	*P2	S8	K1
C25	L1			Q62	J1	Q163	V1	Q264	N2	R35	*E1	R115	*N1	R201	*F2	R282	*P2	S9	M1
C26	*F1	IC1	B2	Q63	J1	Q164	V1	Q271	P2	R41	*F1	R121	*P1	R202	*F2	R283	*P2	S10	N1
C27	R1	IC2	B2	Q64	J1	Q171	D2	Q272	P2	R42	*E1	R122	*P1	R203	*F2	R284	*P2	S11	N1
C28	W1	IC3	L1	Q71	K1	Q172	D2	Q273	P2	R43	*F1	R123	*P1	R204	*F2	R285	*P2	S12	P1
C29	*R1	IC4	L2	Q72	K1	Q173	D2	Q274	P2	R44	*F1	R124	*P1	R205	*F2	R291	*S2	S13	S1
C34	*B2	IC5	W2	Q73	K1	Q174	D2	Q281	R2	R45	*F1	R125	*P1	R211	*G2	R292	*S2	S14	T1
C36	*L2	IC18	G1	Q74	K1	Q181	E2	Q282	R2	R49	*A1	R131	*S1	R212	*G2	R293	*S2	S15	U1
C37	G1	IC19	L1	Q81	K1	Q182	E2	Q283	R2	R51	*G1	R132	*S1	R213	*G2	R294	*S2	S16	U1
C38	*F2	IC22	F1	Q82	K1	Q183	E2	Q284	R2	R52	*G1	R133	*S1	R214	*H2	R295	*S2	S17	C2
C39	*V2	IC23	R1	Q83	K1	Q184	E2	Q291	S2	R53	*G1	R134	*S1	R215	*H2	R301	*T2	S18	D2
C44	R1	IC24	V1	Q84	K1	Q191	E2	Q292	S2	R54	*H1	R135	*S1	R221	*H2	R302	*T2	S19	E2
C45	*R2	IC25	R1	Q91	M1	Q192	E2	Q293	S2	R55	*H1	R141	*T1	R222	*H2	R303	*T2	S20	F2
C46	V1	IC26	C2	Q92	M1	Q193	E2	Q294	S2	R61	*H1	R142	*S1	R223	*H2	R304	*T2	S21	H2
C47	V1	IC28	L2	Q93	M1	Q194	E2	Q301	T2	R62	*H1	R143	*T1	R224	*J2	R305	*T2	S22	H2
C48	A1	IC29	G2	Q94	M1	Q201	F2	Q302	T2	R63	*H1	R144	*T1	R225	*H2	R311	*T2	S23	J2
C49	*A1	IC32	F2	Q101	N1	Q202	F2	Q303	T2	R64	*J1	R145	*T1	R231	*J2	R312	*T2	S24	K2
		IC33	V2	Q102	N1	Q203	F2	Q304	T2	R65	*H1	R151	*T1	R232	*J2	R313	*T2	S25	M2
CN1	*B1	IC34	R2	Q103	N1	Q204	F2	Q311	U2	R71	*J1	R152	*T1	R233	*J2	R314	*U2	S26	N2
		IC35	R2	Q104	N1	Q211	H2	Q312	U2	R72	*J1	R153	*T1	R234	*J2	R315	*U2	S27	N2
D1	*D1			Q111	P1	Q212	H2	Q313	U2	R73	*J1	R154	*U1	R235	*J2	R321	*U2	S28	P2
D2	*E1	Q11	D1	Q112	P1	Q213	H2	Q314	U2	R74	*J1	R155	*U1	R241	*K2	R322	*U2	S29	S2
D3	*H1	Q12	D1	Q113	P1	Q214	H2	Q321	V2	R75	*J1	R161	*U1	R242	*K2	R323	*U2	S30	T2
D4	*K1	Q13	D1	Q114	P1	Q221	J2	Q322	V2	R81	*K1	R162	*U1	R243	*K2	R324	*V2	S31	U2
D5	*M1	Q14	D1	Q121	R1	Q222	J2	Q323	V2	R82	*K1	R163	*U1	R244	*K2	R325	*U2	S32	U2
D6	*P1	Q21	E1	Q122	R1	Q223	J2	Q324	V2	R83	*K1	R164	*V1	R245	*K2	R331	*A2	S33	A2
D7	*S1	Q22	E1	Q123	R1	Q224	J2			R84	*K1	R165	*U1	R251	*M2	R341	*B2	S34	B2
D8	*U1	Q23	E1	Q124	R1	Q231	K2	R1	W2	R85	*K1	R171	*C2	R252	*L2				
D9	*D2	Q24	E1	Q131	S1	Q232	K2	R11	*C1	R91	*M1	R172	*C2	R253	*M2	RB1	B1		
D10	*E2	Q31	E1	Q132	S1	Q233	K2	R12	*C1	R92	*L1	R173	*C2	R254	*M2	RB2	C1		
D11	*H2	Q32	E1	Q133	S1	Q234	K2	R13	*C1	R93	*M1	R174	*D2	R255	*M2	RB3	A1		
D12	*K2	Q33	E1	Q134	S1	Q241	K2	R14	*D1	R94	*M1	R175	*C2	R261	*M2	RB4	B1		
D13	*M2	Q34	E1	Q141	T1	Q242	K2	R15	*C1	R95	*M1	R181	*D2	R262	*M2	RB5	B1		
D14	*P2	Q41	F1	Q142	T1	Q243	K2	R21	*D1	R101	*M1	R182	*D2	R263	*M2				
D15	*S2	Q42	F1	Q143	T1	Q244	K2	R22	*D1	R102	*M1	R183	*D2	R264	*N2	S1	C1		

DP-260 -A SIDE-
1-665-768-11
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DP-260 -B SIDE-
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BKS-R3210

DP-260
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*:B SIDE

Ref	Loc	Ref	Loc	Ref	Loc	Ref	Loc	Ref	Loc	Ref	Loc	Ref	Loc	Ref	Loc
C1	*B2	D17	*A2	IC351	F1	Q103	N2	R10	*H2	R73	*T1	R153	*T2	S14	T2
C2	*C2	D18	*D2			Q104	N2	R11	*M1	R74	*U1	R154	*U2	S15	U2
C3	*K1	D19	*D2	Q11	M1	Q111	P2	R12	*L1	R75	*U1	R155	*U2	S16	U2
C4	*B2	D20	*E2	Q12	M1	Q112	P2	R13	*M1	R81	*U1	R161	*U2	S33	A2
C5	*G1	D21	C1	Q13	M1	Q113	P2	R14	*M1	R82	*U1	R162	*U2	S34	B2
C6	*H1	D22	G2	Q14	M1	Q114	P2	R15	*M1	R83	*U1	R163	*U2	S36	E2
C7	*H1	D23	G2	Q21	N1	Q121	R2	R16	*H2	R84	*V1	R164	*V2	S37	C2
C17	*B2	D24	G2	Q22	N1	Q122	R2	R17	*H2	R85	*U1	R165	*U2	S38	D2
C18	*H2	D25	H2	Q23	N1	Q123	R2	R18	*J2	R91	*M2	R331	*A2	S39	F2
C19	*G2	D26	H2	Q24	N1	Q124	R2	R19	*J2	R92	*L2	R341	*B2	S40	K2
C24	K1	D27	H2	Q31	P1	Q131	S2	R20	*J2	R93	*M2	R361	*E2		
C25	R1	D28	J2	Q32	P1	Q132	S2	R21	*M1	R94	*M2	R371	*C2		
C26	R1	D29	J2	Q33	P1	Q133	S2	R22	*M1	R95	*M2	R381	*D2		
C27	K1	D31	C1	Q34	P1	Q134	S2	R23	*M1	R101	*M2	R391	*E2		
C28	R2	D32	D2	Q41	R1	Q141	T2	R24	*N1	R102	*M2	R401	*K2		
C29	R2	D33	C1	Q42	R1	Q142	T2	R25	*N1	R103	*M2	R402	*K2		
C34	*F2			Q43	R1	Q143	T2	R26	*J2	R104	*N2	R403	*K2		
C35	*J2	IC1	B2	Q44	R1	Q144	T2	R27	D2	R105	*N2	R404	*K2		
C46	A2	IC2	C2	Q51	S1	Q151	U2	R31	*N1	R111	*N2	R405	*K2		
C47	*A2	IC3	K1	Q52	S1	Q152	U2	R32	*N1	R112	*N2				
C48	V1	IC4	B2	Q53	S1	Q153	U2	R33	*N1	R113	*N2	RB1	B1		
C49	V1	IC5	G1	Q54	S1	Q154	U2	R34	*P1	R114	*P2	RB2	B1		
C54	D2	IC6	H1	Q61	T1	Q161	V2	R35	*N1	R115	*N2	RB3	A1		
C331	*H1	IC7	H1	Q62	T1	Q162	V2	R41	*P1	R121	*P2	RB4	A1		
C333	*J1	IC15	B2	Q63	T1	Q163	V2	R42	*P1	R122	*P2	RB5	B1		
C341	*D1	IC16	H2	Q64	T1	Q164	V2	R43	*P1	R123	*P2	RB6	B1		
C343	*D1	IC17	G2	Q71	U1	Q401	K2	R44	*P1	R124	*P2				
C351	*E1	IC18	L2	Q72	U1	Q402	K2	R45	*P1	R125	*P2	S1	M1		
C353	*F1	IC19	R1	Q73	U1	Q403	K2	R51	*S1	R131	*S2	S2	N1		
		IC22	*R1	Q74	U1	Q404	K2	R52	*S1	R132	*S2	S3	N1		
CN1	*B1	IC23	*L1	Q81	V1			R53	*S1	R133	*S2	S4	P1		
		IC24	R2	Q82	V1	R1	*G2	R54	*S1	R134	*S2	S5	S1		
D1	*M1	IC25	*R2	Q83	V1	R2	*G2	R55	*S1	R135	*S2	S6	T1		
D2	*P1	IC26	F2	Q84	V1	R3	*G2	R61	*T1	R141	*T2	S7	U1		
D3	*S1	IC27	J2	Q91	M2	R4	*G2	R62	*S1	R142	*S2	S8	U1		
D4	*U1	IC330	H1	Q92	M2	R5	*G2	R63	*T1	R143	*T2	S9	M2		
D5	*M2	IC331	J1	Q93	M2	R6	*G2	R64	*T1	R144	*T2	S10	N2		
D6	*P2	IC340	C1	Q94	M2	R7	*H2	R65	*T1	R145	*T2	S11	N2		
D7	*S2	IC341	D1	Q101	N2	R8	*H2	R71	*T1	R151	*T2	S12	P2		
D8	*U2	IC350	E1	Q102	N2	R9	*H2	R72	*T1	R152	*T2	S13	S2		

SAFETY CHECK-OUT

After correcting the original service problem,
perform the following safety checks before
releasing the set to the customer :

Check the metal trim, "metallized" knobs,
screws, and all other exposed metal parts for AC
leakage. Check leakage as described below.

LEAKAGE TEST

The AC leakage from any exposed metal part to
earth ground and from all exposed metal parts to
any exposed metal part having a return to
chassis, must not exceed 3.5 mA. Leakage
current can be measured by any one of three
methods.

1. A commercial leakage tester, such as the
   Simpson 229 or RCA WT-540A. Follow the
   manufacturers' instructions to use these
   instruments.
2. A battery-operated AC milliammeter. The
   Data Precision 245 digital multimeter is
   suitable for this job.
3. Measuring the voltage drop across a resistor
   by means of a VOM or battery-operated AC
   voltmeter. The "limit" indication is 5.25 V, so
   analog meters must have an accurate low-
   voltage scale. The Simpson 250 and Sanwa
   SH-63Trd are examples of a passive VOM
   that is suitable. Nearly all battery operated
   digital multimeters that have a 20 V AC range
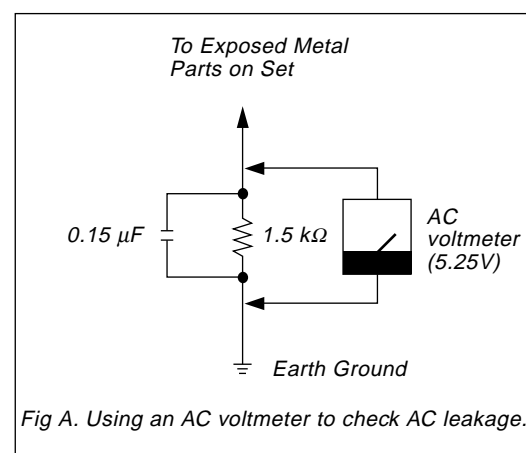   are suitable. (See Fig. A)

Fig A. Using an AC voltmeter to check AC leakage.